Supreme Court, U.S.
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No. 05-

IN THE
Supreme Court of the United States

W.R. GRACE & CO., KOOTENAI DEVELOPMENT CORPORATION, AND W.R. GRACE & CO.-CONN.,

Petitioners,

v.

UNITED STATES OF AMERICA,

Respondent.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether the Ninth Circuit erred, and created a conflict with the Eighth and Tenth Circuits, by holding that the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. §§ 9601 *et seq.*, requires a responsible party to pay the entire cost of an environmental response action of potentially unlimited scope and duration, undertaken without any consideration of cost or cost-effectiveness, without being allowed to challenge whether all or part of that action was necessary to contain or abate an immediate environmental hazard.

CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 29.6 of the Rules of this Court, petitioners state as follows:

Petitioner W.R. Grace & Co. is a publicly held Delaware corporation. It has no parent corporation, and no publicly held corporation owns 10% or more of its stock.

Petitioner Kootenai Development Corporation is a subsidiary of W.R. Grace & Co., and no other publicly held corporation owns 10% or more of its stock.

Petitioner W.R. Grace & Co.-Conn. is a subsidiary of W.R. Grace & Co., and no other publicly held corporation owns 10% or more of its stock.

Petitioners W.R. Grace & Co., Kootenai Development Corporation, and W.R. Grace & Co.-Conn. filed for Chapter 11 bankruptcy in federal court in Delaware in April 2001, and that proceeding remains pending.

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INTRODUCTION

This case presents the question whether the United States may conduct an environmental response action of unlimited scope and duration under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. §§ 9601 *et seq.*, *without any consideration of cost or cost-effectiveness*, and then present a responsible party with the bill. The Ninth Circuit answered that question in the affirmative, holding that once the Environmental Protection Agency (EPA) determines that any conditions at a particular site create a public health hazard, the EPA is free to spend money at will at that site, even on actions unnecessary to contain or abate the hazard, and then recover that money from a responsible party. That holding turns CERCLA upside down, and conflicts with holdings from the Eighth and Tenth Circuits.

CERCLA creates a fundamental distinction between two types of environmental response actions: "removal" and "remedial" actions. "Removal" actions are short-term, temporary measures necessary to contain or abate an immediate environmental hazard. Precisely because such actions are limited in scope and duration, parties undertaking them need not conduct extensive analysis of cost or cost-effectiveness in order later to recover costs from a responsible party. Indeed, subject to certain narrow exceptions, CERCLA expressly caps "removal" actions undertaken by the United States at $2 million or 12 months. "Remedial" actions, on the other hand, are long-term measures undertaken as a permanent environmental remedy. They are not limited in either scope or duration, *but* a party undertaking such an action must conduct substantial analysis of cost and cost-effectiveness if it wishes later to recover costs from a responsible party. The statute thus establishes a system of checks-and-balances: removal actions are limited in scope and duration, and hence require only limited procedural safeguards, whereas remedial actions are

unlimited in scope and duration, and hence require substantial procedural safeguards.

The ruling below obliterates this careful scheme. This case involves one of the largest response actions in American history: so far, the EPA has spent more than $120 million over six years to address asbestos contamination in and around Libby, Montana, and no end is yet in sight. There is no question that CERCLA authorizes the EPA to undertake such an action, and to present responsible parties like petitioners with the bill. But there is also no question that this massive response action is a long-term, permanent effort to restore Libby to its original condition. And therein lies the rub: the EPA has never made any effort to justify the cost or cost-effectiveness of any of its actions in Libby. To the contrary, the EPA has simply thrown money at the problem. The Government obviously may spend its own money as it wishes, but cannot under CERCLA force private parties like petitioners to pay the bill unless it has complied with the relevant procedural safeguards. The EPA has attempted to circumvent those safeguards in this case by asserting that everything done in Libby has been part of a single "removal" action. And the statutory caps on removal actions do not apply, according to the EPA, because everything done in Libby has been part of an *emergency* "removal" action exempt from those caps. The Ninth Circuit held that this was all fine, and affirmed the grant of summary judgment in the EPA's favor with respect to the *entire* Libby response action through the end of 2001.

The upshot of that ruling is that, in the Ninth Circuit, the line between removal and remedial actions under CERCLA is effectively gone. If *this* response action can be characterized as a removal action as a matter of law, then *any* response action can be characterized as a removal action as a matter of law, and there is no more need (or incentive) for the EPA to consider cost or cost-effectiveness when conducting such an action—after all, it

is essentially spending someone else's money. Not surprisingly, the ruling below cannot be reconciled with rulings by other courts of appeals denying cost recovery under CERCLA where a party undertook a remedial action without observing the requisite procedural safeguards, including consideration of cost and cost-effectiveness, required for such actions. *See Public Serv. Co. v. Gates Rubber Co.*, 175 F.3d 1177, 1181-82 (10th Cir. 1999); *Minnesota v. Kalman W. Abrams Metals, Inc.*, 155 F.3d 1019, 1024 (8th Cir. 1998).

This Court should grant certiorari to resolve the conflict. Although CERCLA has been on the books for a generation, and has had sweeping effects on American business and society, this Court has never analyzed the statute's fundamental removal/remedial distinction. The time is now ripe for this Court to do so, and to restore CERCLA's formidable cost-recovery authority to its proper statutory bounds.

OPINIONS BELOW

The Ninth Circuit's decision is reported at 429 F.3d 1224, and reprinted in the Appendix (App.) at 1-50a. The district court's decision granting the United States summary judgment is reported at 280 F. Supp. 2d 1135, and reprinted at App. 51-70a. The district court's decision awarding the United States all of the costs requested is reported at 280 F. Supp. 2d 1149, and reprinted at App. 71-138a.

JURISDICTION

The Ninth Circuit rendered its decision on December 1, 2005. App. 1a. On February 15, 2006, Justice Kennedy granted petitioner's application to extend the time within which to file a petition for a writ of certiorari to April 28, 2006. This Court has jurisdiction under 28 U.S.C. § 1254(1).

PERTINENT STATUTORY PROVISIONS

42 U.S.C. § 9601(23) provides:

> The terms "remove" or "removal" means the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act.

42 U.S.C. § 9601(24) provides:

> The terms "remedy" or "remedial action" means those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or

future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances, or may otherwise be necessary to protect the public health or welfare; the term includes offsite transport and offsite storage, treatment, destruction, or secure disposition of hazardous substances and associated contaminated materials.

STATEMENT OF THE CASE

A. Background

This case arises out of long-ceased vermiculite mining activities near Libby, a town of some 3,000 residents in northwestern Montana. Vermiculite is not a hazardous

substance; it is a form of mica that, when heated, expands like popcorn, and has a variety of commercial uses (especially insulation). App. 140-41a.[1] Commercial vermiculite mining at Zonolite Mountain, located about ten miles outside of Libby, began in the 1920s; in 1939, the Zonolite Company was formed to mine and process vermiculite at the site. App. 51a. Petitioner W.R. Grace & Co. purchased the Zonolite Company in 1963. *See id.*

Like most naturally-occurring minerals, raw vermiculite contains impurities—foreign substances not wanted in the final, commercial product. Among the impurities associated with vermiculite from Zonolite Mountain is tremolite, a naturally occurring mineral that is present in both asbestos and nonasbestos forms. App. 140a. Asbestos (in contrast to vermiculite) *is* a hazardous substance within the meaning of CERCLA. App. 72a (citing 42 U.S.C. § 9601(14) and 40 C.F.R. § 302.4). Because asbestos is an impurity in vermiculite, an important part of the production process in Libby focused on separating asbestos and other impurities from vermiculite.

Grace ceased commercial mining operations in Libby in 1990. *Id.* Over the following years, Grace dismantled many of its mining facilities, and began selling off its properties in and around the town. During those years, federal, state, and local authorities were well aware of residual vermiculite in and around the town, but saw no

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[1] Because the district court granted summary judgment in the Government's favor, a reviewing court must accept Grace's evidence as true, and draw all reasonable inferences in Grace's favor. *See, e.g., Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Accordingly, most of the facts set forth in this petition are drawn from Grace's Statement of Genuine Issues of Material Fact filed in opposition to the Government's summary judgment motion. *See* App. 139-84a.

reason for any action. In 1991, Grace sampled the air along the unpaved road leading from the abandoned mine to the Kootenai River for asbestos and submitted the results to local officials. None of the samples contained more than *one-tenth* the then-existing workplace-safety asbestos standard of 0.2 fibers per cubic centimeter. C.A. App. ER41-43. In 1992, the EPA investigated potential asbestos contamination along the road, and concluded that no action was necessary or appropriate. *Id.* at ER44-45; App. 9a. That same year, the Montana Department of Health and Environmental Sciences sampled soil at the former vermiculite export plant on the outskirts of town and concluded that "[n]either sample showed significant asbestos contamination. Therefore the potential site will be considered no further action at this time." C.A. App. ER1512-14.

Everything changed, however, in late 1999. On November 18—nine years after Grace closed the mine—the *Seattle Post-Intelligencer* began running a series of articles on the health risks from asbestos exposure in Libby. App. 141a. The series asserted that 192 people had died from asbestos-related causes in Libby ("A Town Left to Die"), and charged government agencies with negligence ("While People are Dying, Government Agencies Pass Buck"). The series caused a political firestorm in Montana, and a public-relations crisis for the EPA.

On November 22, 1999—within days of the *Post-Intelligencer* series—the EPA dispatched an investigative team to Libby. App. 141a. In February 2000, the Committee on Environment and Public Works of the United States Senate (which oversees the EPA and its budget, and of which United States Senator Max Baucus of Montana was then the Ranking Member), held a Field Hearing in Libby on "Federal, State, and Local Response to Public Health & Environmental Conditions From Asbestos Contamination in Libby, Montana." Senator

Baucus presided over that hearing, and EPA officials testified that Libby would be handled as a top priority.

The results of EPA's testing in Libby showed that there was no problem with airborne asbestos at any location in the town or its vicinity. App. 142a. Based on these findings, EPA reassured the community that asbestos did not present a health risk to persons living, working, or visiting the town, and made no efforts to evacuate anyone. App. 141-42a. In March 2000, the EPA's On-Scene Coordinator in Libby, Paul Peronard, stated that "[n]one of the results from the soil, insulation and dust samples point to obvious candidates for cleanup." C.A. App. ER1579; *see also* C.A. App. ER183 ("Test results from area homes, soil, dust and air have thus far shown little for the community to be concerned about," and "[i]f somebody were asking me right now, I would say the ambient air is no problem") (Peronard); C.A. App. ER171 ("Sampling to date does not indicate an ambient air asbestos concentration problem.").

Despite these findings, in May 2000, the EPA issued an "Action Memorandum" memorializing its decision to carry out not only a *removal* action (as opposed to a *remedial* action), but an *emergency* removal action (exempt from CERCLA's 12-month, $2 million caps on removal actions) at the site of the former screening plant on the banks of the Kootenai River some four miles outside of town. App. 11a.[2] At that point, the site was owned and occupied by a local couple, the Parkers, who

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[2] The Action Memorandum also memorialized EPA's decision to undertake an emergency removal action at the former export plant site. On the same day the agency issued the Memorandum, however, the agency also issued a Unilateral Administrative Order directing *Grace* to carry out that cleanup. Grace did so at its own expense, and costs associated with that project are not at issue here. App. 11a n.8.

had purchased the property from Grace in the mid-1990s for $126,600. C.A. App. ER1515-17. The Action Memorandum allocated $4.025 million for remediation work at the site, which (without any analysis of cost or cost-effectiveness) was spent on razing all the buildings, excavating the soil to a depth of up to 13 feet, replacing the soil, and improving the property (*e.g.*, installing step pools for trout and rocks along the river to prevent erosion) *Id.* at ER896-97, ER1021-22, ER1187-88; ER1145-72 (photographs); App. 159-63a.

In July 2001, EPA issued a second Action Memorandum memorializing its decision to expand the Libby response action from the screening plant site to two nearby uninhabited forest areas (the Flyway and the Bluffs), three local schools to which Grace had donated vermiculite and/or other mining materials for outdoor athletic facilities, two residential properties (Siefke and Brownlee) with small piles of vermiculite or contaminated mining equipment on site, and the unpaved road between the mine and the river. App. 12a. The second Action Memorandum raised the ceiling for spending on the Libby response action to over $20 million, and extended the estimated duration of the project to 34 months. App. 12-13a. Pursuant to the second Action Memorandum, EPA (without any analysis of cost or cost-effectiveness) dug up the soil in the forest at the Flyway and the Bluffs, replaced all the soil, ripped up the athletic facilities at the schools (even though the mining materials donated by Grace had long since been removed or paved over), and engaged in other remedial activities (including buying a new public announcement system and portable popcorn machine for the high school). App. 163-69a; *see also* C.A. App. ER642-51, ER897-912, ER1021-22, ER1653-57.

In May 2002, EPA issued a third Action Memorandum memorializing its decision to expand the Libby removal action yet again, this time to residential properties and businesses throughout the Libby valley. App. 13a. The third Action Memorandum raised the ceiling for spending

on the Libby project to $55.6 million, and extended the estimated duration of the project by two to three years. *Id.* Pursuant to the third Action Memorandum, EPA (without any analysis of cost or cost-effectiveness) to this day is digging up residents' yards throughout Libby, replacing the soil, and restoring the facilities. C.A. App. ER912-13.

Notwithstanding all of this activity, EPA made no attempt to place Libby on the National Priorities List (NPL), a list required by CERCLA, 42 U.S.C. § 9605(a)(8), which ranks the highest national priorities for environmental response actions (and in this period included over 1,000 sites). Inclusion on the NPL is a prerequisite for EPA to perform a remedial action (unlike a removal action). *See* 42 U.S.C. § 9605(a)(8); 40 C.F.R. § 300.425(b)(1). Ultimately, rather than itself trying to justify placing Libby on the NPL, the agency instead lobbied the Governor of Montana to exercise her unreviewable one-time statutory power to designate a site within the State for placement on the NPL. C.A. App. ER 1643-45. The Governor agreed to do so, *id.* at ER1646-48, and Libby was listed on the NPL in October 2002, *see National Priorities List for Uncontrolled Hazardous Waste Sites*, 67 Fed. Reg. 65315 (Oct. 24, 2002)—well *after* the agency had issued the three Action Memoranda and incurred all of the costs at issue here.

B. This Lawsuit

On March 30, 2001, the United States filed this action against Grace and its subsidiaries Kootenai Development Corporation and W.R. Grace & Co.-Conn (collectively Grace) under Section 107 of CERCLA, 42 U.S.C. § 9607, seeking recovery of response costs incurred in Libby through December 31, 2001. The complaint also sought a declaration of Grace's liability under Section 113(g)(2) of CERCLA, 42 U.S.C. § 9613(g)(2), that would be binding in future actions to recover further response costs or

damages incurred by the United States in connection with the Libby response action.

Grace sought to defend itself on the grounds, among others, that the EPA had exceeded its statutory and regulatory authority (1) by characterizing the entire Libby response action as a removal action, thereby evading the procedural safeguards required for remedial actions, and (2) in any event, by characterizing the entire Libby response action as an "emergency," and thereby exceeding the 12-month, $2 million caps on removal actions. In December 2002—before discovery was finished, and before Grace had even taken certain critical depositions—the district court (Molloy, C.J.) granted the United States summary judgment with respect to both these challenges. App. 51a-70a. (Because discovery had not yet concluded, the district court allowed Grace to file its Statement of Genuine Issues of Material Fact (App. 139-84a) *after* the court entered its summary judgment order; the court later stated on the record that none of the facts identified in the Statement altered its decision.)

With respect to the agency's characterization of the entire Libby response action as a removal action, the court asserted that "the record indicates that the EPA *considered* the mandatory factors set forth in 40 C.F.R. § 300.415(b)(2)" for a removal action, and that the agency could "proceed with a removal action after *considering* these factors." App. 60a (emphasis added). The court emphasized that "*[c]onsideration* of the mandatory factors is what is required to conduct a removal action; *because the EPA did so*, its decision to conduct a removal action rather than a remedial action ... cannot be second-guessed by this Court." *Id.* (emphasis added). The court did not address Grace's contention that the agency's actual response actions in Libby went far beyond the permissible scope of a removal action. And with respect to the agency's decision to exceed the statutory caps on removal actions, the court asserted that the caps are "not inviolate," and upheld EPA's decision on the ground that

the agency had "*consider[ed]*" the factors necessary to exceed the caps. App. 61-62a (emphasis added).

After the court granted the United States summary judgment on liability, the only issue left for trial was whether the United States was entitled to all the costs claimed—$54,527,081.11. The court held a three-day bench trial on that issue in early 2003, and, several months later, issued a decision granting the United States *every penny* requested. App. 71a-138a.

Grace appealed, but a panel of the Ninth Circuit (McKeown, J., joined by Betty Fletcher and Bea, JJ.) affirmed. App. 1-50a. The panel "diverge[d] from the district court's reasoning in some respects," but "reach[ed] the same ultimate conclusion: The EPA's cleanup in Libby was a removal action that was exempt from the temporal and monetary cap." App. 4a. The Ninth Circuit recognized that "Congress created a bifurcated scheme of removal and remedial actions and, accordingly, there must be outer limits to removal actions." App. 42a. Nonetheless, the court held that the EPA was entitled to characterize the *entire* Libby response action as a "removal action" in light of "the documented evidence that, absent immediate action, the airborne toxic particles would continue to pose a substantial threat to public health." *Id.* The court made no effort to link the entire Libby response action to any such threat. Rather, the court declared, "[w]e refrain from slicing and dicing the EPA's single, cohesive removal action into a myriad of fractured parts." App. 23a. On the twin assumptions that (1) the EPA was entitled to undertake an emergency removal action to respond to an immediate public health hazard, and (2) the EPA was entitled to characterize the entire Libby response action as a "single, cohesive removal action," the court not only held that the entire Libby response action was a removal, but that the entire Libby response action was an *emergency* removal exempt from the statute's monetary and durational caps. Judge Bea concurred "to emphasize that this court should stand

ready to review separately the EPA's actions at different locations at a removal site under the 'arbitrary and capricious' standard stated in 42 U.S.C. § 9613(j)(2)." App. 50a.

This petition follows.

REASON FOR GRANTING THE WRIT

The Ninth Circuit Erred, And Created A Circuit Conflict, By Holding That The Entire Libby Response Action Qualifies As An Emergency Removal Action That Exempts The EPA From Considering Cost Or Cost-Effectiveness.

The Ninth Circuit erred, and created a circuit conflict, by holding that CERCLA requires a responsible party to pay the entire cost of an environmental response action of potentially unlimited scope and duration, undertaken without any consideration of cost or cost-effectiveness, without being allowed to challenge whether all or part of that action was necessary to contain or abate an immediate environmental hazard. That approach turns CERCLA on its head by essentially obliterating the core statutory distinction between "removal" and "remedial" actions.

Although, as the Ninth Circuit correctly observed, the statutory definitions of "removal" and "remedial" actions are hardly models of clarity, *see* App. 14a, 24a, there is broad consensus on the basic nature of the distinction. "Removal actions are short-term remedies, designed to cleanup, monitor, assess, and evaluate the release or threatened release of hazardous substances. Remedial actions are longer-term, more permanent remedies to 'minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.'" *General Elec. Co. v. EPA*, 360 F.3d 188, 189 (D.C. Cir. 2004) (*per curiam*) (quoting 42 U.S.C. § 9601(24)); *see also Exxon Corp. v. Hunt*, 475 U.S. 355,

360 (1986) (distinguishing a "'removal action,'" *i.e.*, "a short-term cleanup" from a "'remedial action,'" *i.e.*, "measures to achieve a 'permanent remedy' to a particular hazardous waste problem"); *Colorado v. Sunoco, Inc.*, 337 F.3d 1233, 1240 (10th Cir. 2003) (same); *In re Bell Petroleum Servs., Inc.*, 3 F.3d 889, 894 (5th Cir. 1993) (same); *New York v. Shore Realty Corp.*, 759 F.2d 1032, 1040 (2d Cir. 1985) (same); *cf.* 132 Cong. Rec. S14895-02, 14896 (daily ed. Oct. 3, 1986) ("Removals should remain interim and relatively short-term and inexpensive actions or urgent responses.") (statement of Sen. Stafford, Chairman of the Senate Committee on Environment and Public Works).

However difficult it may be to distinguish between removal and remedial actions at the margins, the distinction is "critical" to CERCLA's statutory scheme and the EPA's corresponding regulatory scheme, the National Contingency Plan (NCP). App. 8a; *see also* Jerry L. Anderson, *Removal or Remedial? The Myth of CERCLA's Two-Response System*, 18 Colum. J. Envtl. L. 103, 103-04 (1993). As the Ninth Circuit explained below, "'the requirements for remedial actions are much more detailed and onerous'" than the requirements for removal actions. App. 8a (quoting *Morrison Enters. v. McShares, Inc.*, 302 F.3d 1127, 1136 (10th Cir. 2002)); *see also* Anderson, *supra*, at 104 (CERCLA and the NCP provide "dramatically different requirements for removal as opposed to remedial action").

In particular, "the EPA is required to consider costs when selecting remedial alternatives whereas 'CERCLA contains no corresponding mandate for removal actions.'" App. 8a (quoting *United States v. Hardage*, 982 F.2d 1436, 1443 (10th Cir. 1992)). This distinction makes sense: a party need not consider cost or cost-effectiveness before containing or abating an immediate environmental hazard, but must consider cost and cost-effectiveness before permanently remediating a contaminated site. "The division of responses into the two categories of

removal and remedial actions is designed to provide an opportunity for immediate action—a removal—without detailed review, where there is no time to safely conduct such review due to the exigencies of the situation." *Channel Master Satellite Sys., Inc. v. JFD Elecs. Corp.*, 748 F. Supp. 373, 385-86 (E.D.N.C. 1990); *see also* Anderson, *supra*, at 107-08. A party is free to remediate a site without following the procedural safeguards for remedial actions, but cannot thereafter recover those costs from another party. *See, e.g., Gates Rubber*, 175 F.3d at 1181-82; *Kalman W. Abrams*, 155 F.3d at 1024; *Sherwin-Williams Co. v. City of Hamtramck*, 840 F. Supp. 470, 475-76 (E.D. Mich. 1993); *Channel Master*, 748 F. Supp. at 384-87; *Amland Properties Corp. v. Aluminum Co.*, 711 F. Supp. 784, 795-801 (D.N.J. 1989); *Versatile Metals, Inc. v. Union Corp.*, 693 F. Supp. 1563, 1574-83 (E.D. Pa. 1988). The statute thus protects the public health without forcing liable parties to pay for unnecessary or wasteful response costs. *See, e.g.*, Anderson, *supra* at 107-08; *see also id.* at 103 ("Congress made the distinction between remedies and removals *crucial* to the recovery of cleanup costs.") (emphasis added); App. 8a (removal/remedial distinction "vital to those held liable").

In this case, however, the Ninth Circuit held that the EPA was entitled to characterize the *entire* Libby response action as a "removal" action, and to recover from Grace every penny of the more than $54 million spent through the end of 2001, because the agency was entitled to conclude that there was a public health hazard in Libby that justified such an action. *See* App. 4a, 14a-15a, 41a-42a. With all due respect, that is a *non sequitur*.

Grace does not deny that CERCLA authorizes the EPA to conduct removal actions to contain or abate immediate environmental hazards, without any consideration of cost or cost-effectiveness, and thereafter recover the cost of such actions from responsible parties. But that is not what the EPA did here. Rather, from the

outset, the EPA set out to permanently remediate the entire site. Indeed, EPA's On-Scene Coordinator, Paul Peronard, described the response action in Libby as a "permanent," "long-term" solution. C.A. App. ER1183, ER1191; *see also* App. 160a. The problem here is that the EPA undertook these remedial actions without observing the procedural safeguards for such actions, and made no effort to distinguish these improper remedial actions from otherwise permissible removal actions. Through this lawsuit, the EPA is seeking to recover the cost of *all* its actions in Libby through the end of 2001, without regard to whether those actions involved the containment or abatement of an immediate environmental hazard or the permanent remediation of the site.

All Grace is saying here, thus, is that it is entitled to its day in court to try to prove that particular elements of the $54 million requested by the Government (in Grace's view, the vast majority of that amount) were not necessary to contain or abate an immediate environmental hazard, and thus not recoverable as "removal" costs under CERCLA. (As the Ninth Circuit noted, "[t]he EPA does not dispute that the [Libby] cleanup did not meet the National Contingency Plan's procedural requirements for a remedial action." App. 14a n.13.) So far, Grace has been denied that opportunity: the district court granted (and the Ninth Circuit affirmed) *summary judgment* against Grace with respect to liability for the entire Libby response action through the end of 2001. That result is particularly shocking because the EPA has never claimed, and neither the district court nor the Ninth Circuit ever determined, that all (or even a majority, or a substantial portion) of the costs at issue were necessary to contain or abate an immediate environmental hazard (as opposed to permanently remediate the site).

It is no answer to say, as did the Ninth Circuit, that "the situation [in Libby] warranted an immediate, aggressive response to abate the public health threat."

See App. 4a. Whether or not a removal action was *warranted* has nothing to do with whether or not a removal action was *conducted*. The Ninth Circuit brushed aside Grace's core argument that the Libby response action went far beyond the permissible scope of a removal by declaring that it would not "slic[e] and dic[e] the EPA's single, cohesive removal action into a myriad of fractured parts." App. 23a; *see also* App. 11a n.9 ("[W]e analyze the EPA's activities in Libby as a single response action rather than a patchwork of discrete smaller actions."). That, of course, is the very question presented in this case: whether the EPA's Libby response action through the end of 2001 *was* a "single, cohesive removal action." To the extent that the action was devoted in whole or in part to the permanent remediation of the site, as opposed to the containment or abatement of an immediate environmental hazard, it was *not* a "single, cohesive removal action" exempt from the procedural safeguards for remedial actions, such as consideration of cost and cost-effectiveness. In a nutshell, the Government is not entitled to collect costs for the entire Libby response action as a removal action if the entire Libby response action was not a removal action.

The Ninth Circuit's "all or nothing" approach—under which an entire response action at a site may be characterized as a removal action if *any portion* of that action may be characterized as a removal action—is flatly inconsistent with decisions from other circuits. Thus, in *Kalman W. Abrams*, the Eighth Circuit affirmed in part and reversed in part a grant of summary judgment in favor of the *defendant* in a CERCLA cost-recovery action. *See* 155 F.3d at 1023-26. At issue there was a site where hazardous lead contaminants had been spread over a property. *See id.* at 1021. The Minnesota Pollution Control Agency conducted a response action at the site; over the course of several years, it permanently remediated the property (digging up the contaminated soil and replacing it with new soil), but failed to observe

the procedural safeguards required for remedial action. *See id.* at 1021-22. When the State of Minnesota later filed a CERCLA cost recovery action against several responsible parties, the district court granted summary judgment in the defendants' favor on the ground that the State could not recover remedial costs where it had not complied with remedial safeguards. *See id.* at 1023.

The Eighth Circuit affirmed the district court's decision that the State could not recover the cost of the entire response action. *See id.* at 1024. The Eighth Circuit readily acknowledged "the obvious fact that lead contaminants were 'removed' from the site." *Id.* But that did not mean, the court explained, that the procedural safeguards for remedial actions were categorically inapplicable. To the contrary, the court concluded, "we agree with the district court that the *permanent nature* of the McGuire site cleanup and the *leisurely manner* in which MPCA dealt with the problem make it appropriate to hold the agency to the NCP standards for remedial action." *Id.* (emphasis added); *see also id.* at 1026 ("[T]he kind of arbitrary and wasteful agency action that occurred in this case cannot be rewarded.").

But that conclusion, in turn, did not mean that the State was categorically barred from recovering *any* of its response costs. *See id.* at 1025 ("[W]e disagree with the district court's decision to preclude the State from any cost recovery under CERCLA."). Rather, the State was entitled to recover that portion of the costs that were incurred in compliance with the CERCLA scheme. *See id.* Thus, the Eighth Circuit remanded the case to give the defendants an opportunity to show that particular response costs were "unreasonable or unnecessary." *Id.* at 1026. "The State may not recover response costs incurred in implementing appropriate remedial actions to the extent appellees prove on remand that they would have and could have accomplished the cleanup more cost effectively." *Id.*; *see also Amland*, 711 F. Supp. at 795-96 (granting summary judgment to CERCLA cost-recovery

defendant with respect to the "vast majority of the costs" incurred in a response action, which were "for the remedial actions undertaken in an attempt to remove [hazardous chemicals] from the [site].").

Similarly, in *Gates Rubber*, the Tenth Circuit affirmed a grant of summary judgment in favor of the *defendant* in a CERCLA cost-recovery action. *See* 175 F.3d at 1183-86. At issue there was a site contaminated with lead and polychlorinated biphenyls (PCBs). *See id.* at 1179. One of the responsible parties, the Public Service Company of Colorado (PSCO), undertook a comprehensive response action (which included excavating and transporting contaminated soil from the site) over more than four years, but failed to comply with the procedural requirements for remedial actions. *See id.* at 1179-80, 1184. PSCO later sought to recover a proportionate share of the response cost from other responsible parties, but the district court granted summary judgment in favor of the defendants on the ground that "as a matter of law PSCO's cleanup was a remedial action" that did not comply with the procedural requirements for such actions. *Id.* at 1180.

The Tenth Circuit agreed with the district court, and affirmed the judgment denying *any* cost recovery. As the court explained, "PSCO intended to effect a permanent remedy" through the multi-year response action. *Id.* at 1184. Although, in the course of this comprehensive response action, PSCO undertook discrete actions that, standing alone, might qualify as removal actions, that did not alter the fact that they were part of a broader remedial action subject to CERCLA's heightened procedural safeguards. *See id.* ("Although PSCO 'removed' and 'excavated' soils and buried storage drums, neither of those acts alone nor their particular labeling transforms the cleanup into a removal action."). Thus, the Tenth Circuit concluded that "[t]he district court did not err in concluding PSCO undertook a remedial action which triggered the more detailed requirements of the

NCP." *Id.* (citing *Kalman W. Abrams*, 155 F.3d at 1024); *see also Versatile Metals*, 693 F. Supp. at 1578 (granting judgment in favor of CERCLA cost-recovery defendants based on evidence presented at a trial "that although some immediate actions were taken at the time the contamination was discovered, [the CERCLA cost-recovery plaintiffs'] response action was remedial.").

The Ninth Circuit's decision below, affirming the grant of summary judgment in favor of the *plaintiff* in a CERCLA cost-recovery action, cannot possibly be squared with these precedents. As noted above, the Ninth Circuit characterized the *entire* Libby response action though the end of 2001 as a removal action, even though Grace vigorously disputed whether the bulk of the action was necessary to contain or abate an immediate environmental hazard, *see* App. 139-84a, and the EPA itself neither could nor did attempt to justify all of its actions in Libby under that standard. In contrast, the Eighth Circuit in *Kalman W. Abrams* remanded for a determination of which response costs were indeed necessary, and the Tenth Circuit in *Gates Rubber* simply denied any cost recovery altogether. Both *Kalman W. Abrams* and *Gates Rubber* rejected the argument that an entire response action at a particular site must (or even may) be characterized as a removal just because, among other things, hazardous substances were contained, abated, or removed. *See* 175 F.3d at 1184; 155 F.3d at 1024. Thus, the cost-recovery defendants in both *Kalman W. Abrams* and *Gates Rubber*—in sharp contrast to Grace—had their day in court to argue that at least portions of a disputed CERCLA response action were remedial in nature but lacked the remedial safeguards.

The Ninth Circuit's "all or nothing" approach not only conflicts with *Kalman W. Abrams* and *Gates Rubber*, but renders the fundamental removal/remedial distinction a dead letter. After all, the predicate for *any* response action (whether removal or remedial) under CERCLA is the release of "hazardous substances" into the

environment. 42 U.S.C. § 9601(23) (statutory definition of "removal" actions); *id.* § 9601(24) (statutory definition of "remedial" actions). By definition, then, *any* CERCLA response action will involve an attempt to address an environmental hazard. Accordingly, if the existence of a such a hazard were the touchstone for distinguishing between removal and remedial actions, the distinction would be meaningless. Indeed, almost every remedial action could be said to encompass a removal action, because the permanent remediation of a site typically involves the removal of hazardous substances. Under the Ninth Circuit's decision below, a party responding to environmental contamination can immediately launch a remedial action without any consideration of cost or cost-effectiveness, and later collect all of the costs of that action, by simply pointing to the part of the action that contained or abated the release of a hazardous substance—which is precisely what the EPA has done here. Needless to say, the statutory and regulatory requirements for remedial actions would be wholly meaningless if *any* response action can be characterized as a removal action.

In other words, the only way that a statutory and regulatory regime based on the removal/remedial distinction makes sense is that a removal action must be limited in scope to containing or abating the exigency that gave rise to that action in the first place. If, as the decision below allows, an exigency justifying a removal action is an "open sesame" to conduct a full-blown remedial action without observing the remedial safeguards, the removal/remedial distinction is gone. A responding party has no incentive to constrain its spending (and indeed, a perverse incentive to maximize its spending) if it knows that it can conduct a multi-year, multi-million dollar cleanup on someone else's tab. *See, e.g., Bell,* 3 F.3d at 907 (CERCLA does not give EPA "unrestrained spending discretion," and "such unbridled discretion removes any restraint upon the conduct of the

EPA in exercising its awesome powers; if the EPA knows there are no economic consequences to it, its decisions and conduct are likely to be less responsible"); *cf.* Stephen G. Breyer, *Breaking the Vicious Circle* 11-19 (1993) (noting danger that unconstrained regulators will overregulate against risk). That is why there must be a nexus between the exigency justifying a removal action and the scope of that action, and sober judicial assessment of that nexus—particularly because CERCLA gives the EPA broad discretion to select the response in the first instance, *see* 42 U.S.C. § 9613(j)(2), and bars pre-enforcement judicial review of that response, *see id.* § 9613(h). Because the district court here granted summary judgment in the Government's favor across the board, and the Ninth Circuit affirmed that decision, Grace has been denied any such assessment.

It is no answer to say, as did the Ninth Circuit, that the situation in Libby is "truly extraordinary." App. 4a, 15a. What that means, apparently, is that the Ninth Circuit concluded (notwithstanding the summary judgment posture of the case) that the public health hazard presented in Libby was acute. *See id.* at 4a ("[T]he population of Libby ... faces ongoing, pervasive exposure to asbestos particles being released through documented exposure pathways. We cannot escape the fact that people are sick and dying as a result of this continuing exposure."). But that means at most that the Ninth Circuit believes that it would be hard for Grace to show that all aspects of the EPA's response action in Libby through the end of 2001 were not necessary to contain or abate such an immediate environmental hazard. It provides no basis whatsoever for denying Grace its day in court to attempt to make that showing in the first place.[3]

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[3] Judge Bea's concurrence is especially perplexing on this score. Judge Bea appeared to agree with Grace that particular

In opposing the Government's motion for summary judgment, Grace identified numerous aspects of the Libby response action that were not geared to containing or abating an immediate environmental hazard. App. 139-84a. At the most basic level, the Libby response action focused from the outset on excavating and replacing the soil. Given that asbestos does not pose a public health risk unless it is *airborne*, App. 155a, it is fanciful to suggest that excavating and replacing the soil at a depth of anywhere from five to thirteen feet could represent a short-term or interim (rather than permanent) solution to an asbestos contamination problem. The EPA dug up concrete and asphalt to get to the soil underneath, and then *after* replacing the soil, remediated the site by, among other things, planting new trees, installing new rocks along the riverfront to prevent erosion, and building new step pools for trout. App. 159-65a. By no stretch of the imagination can all of these actions be characterized as steps necessary to contain or abate an immediate environmental hazard. Notably, neither the EPA, the district court, nor the Ninth Circuit ever contended otherwise. Rather, as noted above, the EPA, the district court, and the Ninth Circuit all characterized the *entire* Libby response action as a permissible removal because it

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components of the Libby response action could be challenged, but rejected a particular example discussed in Grace's Ninth Circuit brief on the ground that "the record contains additional findings that supply a rational reason" to place that example on the removal side of the removal/remedial distinction. App. 50a. Given the summary judgment posture of the case, however, the question is not whether the EPA's position was "rational," but whether the EPA's position was correct as a matter of law. Again, Grace never has had its day in court to show that all the EPA's actions in Libby through the end of 2001 were not necessary to contain or abate an immediate environmental hazard.

contained a removal (as well as a frankly remedial) component—precisely the opposite of the way the Eighth and Tenth Circuits approached the issue.

The EPA, moreover, has been taking its time on the Libby response action; right now, that action has been underway for more than six years, and no end is in sight. Although the Ninth Circuit downplayed the duration of the action by blaming the weather, *see* App. 36a-37a (citing *Sherwin-Williams* with a "*but see*"), that assertion misses the point that the EPA has had ample time to evaluate the cost and cost-effectiveness of its actions in Libby but steadfastly has refused to do so, *see* App. 163-68a. If excavating and replacing the soil to a depth of six feet in uninhabited forest areas was not necessary to contain or abate an immediate hazard, *see* App. 163-65a, then the EPA should have analyzed cost and cost-effectiveness before excavating and replacing the soil to a depth of six feet in uninhabited forest areas—which might have dissuaded the EPA from undertaking that particular action in the first place. That is the way CERCLA is supposed to work.

Indeed, given that CERCLA expressly caps removal actions by the EPA at $2 million or 12 months, *see* 42 U.S.C. § 9604(c)(1), it is nothing short of remarkable that the Ninth Circuit held that the EPA was entitled to summary judgment with respect to its characterization of the *entire* Libby response action through the end of 2001 as a removal action. Although the statutory caps are not inviolate, and may be exceeded (as allegedly relevant here) if "immediately required to prevent, limit, or mitigate an emergency," 42 U.S.C. § 9604(c)(1)(A), the caps at the very least underscore the limited and interim nature of removal actions. Certainly, the fact that the EPA is seeking through this lawsuit to recover more than *$54 million* in costs for response actions taken over more than *two years* on its face tends strongly to confirm Grace's position that something more than a removal action is afoot.

The Ninth Circuit tried to justify its contrary conclusion by insisting that "the purpose of the statute ... points towards a liberal reading of 'removal' in order to effectuate CERCLA's underlying purpose of protecting and preserving public health and the environment by facilitating the expeditious and efficient cleanup of hazardous waste sites." App. 28a (internal quotation and brackets omitted); *see also id.* ("[A] liberal reading provides the EPA with greater flexibility to use this tool for the protection of the public health."). That approach, of course, begs the fundamental question whether all of the EPA's actions in Libby through the end of 2001 (as to which the Ninth Circuit affirmed the grant of summary judgment in the EPA's favor) were in fact necessary to contain or abate an immediate environmental hazard. Allowing Grace its day in court to challenge specific actions would not undermine CERCLA's purpose of protecting public health and the environment; rather, it would only further CERCLA's purpose of preventing arbitrary and capricious agency action. "'Congress has not provided that private parties must pay for the consequences of arbitrary and capricious agency action.'" *Kalman W. Abrams*, 155 F.3d at 1024 (quoting *Bell*, 3 F.3d at 905). This distinct purpose is reflected in the statutory provisions mandating procedural safeguards (including consideration of cost and cost-effectiveness) for remedial actions; to declare (as did the Ninth Circuit) that CERCLA's "remedial purpose" mandates a broad interpretation of "removal actions," App. 41a, is simply to read these latter provisions out of the statute.

Nor does the legislative history support the Ninth Circuit's approach. Indeed, the decision below provides a classic example of the adage that legislative history can be used in a manner akin to "entering a crowded cocktail party and looking over the heads of the guests for one's friends." *Conroy v. Aniskoff*, 507 U.S. 511, 519 (1993) (Scalia, J., concurring). The Ninth Circuit "[took] away from the legislative history ... the drafters' overarching

concern that aggressive action be taken to protect the public health." App. 29a. By focusing on that "overarching concern," the Ninth Circuit wholly ignored a more specific concern applicable here: a concern that the EPA not use its removal authority "to circumvent the more rigorous and explicit requirements regarding public participation and health standards" for remedial actions. 132 Cong. Rec. at 14896 (statement of Sen. Stafford, Chairman of the Committee on Environment and Public Works).

Similarly misguided is the Ninth Circuit's suggestion that some form of judicial deference (the Ninth Circuit was not sure which) was due the EPA's characterization of its actions in Libby as removal actions. *See* App. 19a-24a. That suggestion defies fundamental principles of administrative law. This lawsuit is a cost-recovery action brought by the EPA. Congress delegated to the *courts*, not the *agency*, the authority to determine in the first instance whether such cost recovery is warranted. *See* 42 U.S.C. § 9607. Thus, there is no basis for courts to defer to the agency's characterization of particular actions as removal (as opposed to remedial) actions, just as there is no basis for courts to defer to a prosecutor's characterization of particular actions as criminal. *See, e.g.*, *Kelley v. EPA*, 15 F.3d 1100, 1105-08 (D.C. Cir. 1994) (Silberman, J.). With respect to the characterization of the particular response actions undertaken by the EPA in Libby, there is nothing to which a court can defer other than the agency's briefs.

In any event, the Ninth Circuit's discussion of the deference issue only underscores the need for this Court's review. The Ninth Circuit frankly admitted that it could not reconcile this Court's precedents in this area, particularly on the degree of judicial deference due to informal agency adjudications. *See* App. 19a ("Our decisions understandably have been conflicted as to whether *Chevron* deference only applies upon formal rulemaking and whether lesser deference applies in other

situations.") (citing *Chevron U.S.A., Inc. v. NRDC*, 467 U.S. 837 (1984); *United States v. Mead Corp.*, 533 U.S. 218 (2001)). As the Ninth Circuit observed, with some understatement, "[f]ollowing *Mead*, the continuum of agency deference has been fraught with ambiguity." App. 19a; *see also id.* at 20a ("*Mead* ... further obscured the already murky administrative law surrounding *Chevron*.") (internal quotation omitted). Ironically, Grace agrees with the Ninth Circuit's ultimate conclusion that resolution of the deference issue should not affect the result in this case, *see* App. 21a, but for the opposite reason: while the Ninth Circuit concluded that the entire Libby action may be characterized as a removal action regardless of the standard of deference, Grace believes that the entire Libby action may *not* be characterized as a removal action regardless of the standard of deference. Given the Ninth Circuit's open confusion on the deference issue, though, at the very least that issue confirms the need for this Court's review.

In the final analysis, the Ninth Circuit has seriously distorted an important federal statute. As the Eighth and Tenth Circuits have recognized, CERCLA's remedial safeguards are not technicalities, but vital checks on the awesome power to present someone else with the bill for an environmental cleanup. *See Gates Rubber*, 175 F.3d at 1181-82; *Kalman W. Abrams*, 155 F.3d at 1024. In the Ninth Circuit, however, a party can now avoid those checks by simply identifying some removal component within a remedial action, and then shoehorning the entire response action at the site into the removal category. The upshot is that, in the Ninth Circuit at least, the EPA now has *carte blanche* under CERCLA to use its removal authority not only to contain or abate an immediate environmental hazard, but also to remediate a site without complying with the procedural requirements for remedial actions.

By underscoring that—for better or worse—the removal/remedial distinction underlying CERCLA is

"critical," App. 8a, the Ninth Circuit also underscored that this distinction should be clear. If any lesson may be drawn from the decision below, it is that the distinction is not clear. Although this Court has alluded to the distinction in passing, *see Exxon*, 475 U.S. at 360, it has never analyzed it. Given CERCLA's signal role in American environmental law, and the billions of dollars expended under that statute, Grace respectfully submits that the decision below is worthy of this Court's review.

The bottom line here is that if EPA is allowed to characterize the entire Libby response action (which to date has cost over $120 million and lasted over six years) not only as a removal action, but as an "emergency" removal exempt from the statutory caps, then CERCLA's substantive and procedural protections are a dead letter, and the agency has unfettered power to spend other people's money. That result would be a defeat not only for sound environmental policy but also for the rule of law.

CONCLUSION

For the foregoing reasons, this Court should grant the petition for writ of certiorari.

Respectfully submitted,

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FOR PUBLICATION

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

UNITED STATES OF AMERICA, *Plaintiff-Appellee,* v. W.R. GRACE & CO.; KOOTENAI DEVELOPMENT, CORPORATION; W.R. GRACE & CO. CONN., *Defendants-Appellants.*	No. 03-35924 D.C. No. CV-01-00072-DWM OPINION

Appeal from the United States District Court
for the District of Montana
Donald W. Molloy, District Judge, Presiding

Argued and Submitted
February 7, 2005—Seattle, Washington

Filed December 1, 2005

Before: Betty B. Fletcher, M. Margaret McKeown, and
Carlos T. Bea, Circuit Judges.

Opinion by Judge McKeown;
Concurrence by Judge Bea

COUNSEL

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OPINION

McKEOWN, Circuit Judge:

Libby, Montana, sits sixty-five miles south of the Canadian border. The seemingly rustic and picturesque environment of this area masks a troubling history—the community has been plagued with asbestos-related contamination. In 1999, the Environmental Protection Agency ("EPA") was called in to address disturbing health reports due to asbestos-related contamination. We must decide whether, in responding to this threat, the EPA exceeded the bounds of its authority to conduct cleanup activities under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9601 et seq. We hold that it did not.

Defendants W.R. Grace & Co.,[1] Kootenai Development Corporation, and W.R. Grace & Co.-Conn. (collectively, "Grace") do not dispute that they are financially obligated

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[1] Although the case caption has remained consistent, we note that the district court's order states that the parties stipulated to the dismissal of W.R. Grace. & Co., a Delaware corporation that was incorporated in 1998 and is the sole shareholder of W.R. Grace & Co.-Conn. *United States v. W.R. Grace & Co.-Conn.*, 280 F. Supp. 2d 1135, 1139 n.1 (D. Mont. 2002) ("*Grace I*").

under CERCLA to assist with the cleanup of asbestos originating from their former mining and processing operations near Libby.[2] Instead, Grace contests the EPA's characterization of the cleanup as a removal action rather than a remedial action under CERCLA. If the cleanup is a remedial action, which is often characterized as a permanent cleanup, then Grace argues that the EPA did not fulfill the regulatory requirements for remedial actions. For example, a remedial action requires certain analysis of the costs and effectiveness of the remediation and also requires inclusion on the National Priority List. See 40 C.F.R. §§ 300.425(b)(1), 300.430(e)(7). In contrast, the regulatory requirements for removal actions, which provide the EPA with substantial flexibility to tailor prompt and effective responses to immediate threats to human health and the environment, are considerably relaxed.

Grace argues that the EPA circumvented the regulatory safeguards by conducting a remedial action under the guise of a removal, thereby giving the EPA free rein to conduct what Grace styles as "the quintessential remedial action" under the less-restrictive requirements applied to removals. Grace presents this as a legal question: Is the EPA's characterization of its activities in Libby as a removal action correct as a matter of law?

Grace further contends that even if the action is appropriately classified as a removal action, the district court erred in exempting the action from CERCLA's general 12-month, $2 million cap for removal actions and in granting the EPA over $54 million in reimbursement plus a declaratory judgment for future costs. Finally, Grace

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[2] In February 2005, the United States unsealed a criminal indictment charging Grace and various of its employees with offenses relating to knowingly exposing miners and Libby residents to asbestos. *See* Charges Issued Over Asbestos at a Mine, N.Y. Times, Feb. 8, 2005, at A16. This pending indictment does not affect these proceedings.

disputes the accounting methods used to calculate the EPA's indirect costs.

The situation confronting the EPA in Libby is truly extraordinary. This cleanup site is not a remote, abandoned mine. Rather, the population of Libby and nearby communities, which the EPA estimates at about 12,000, faces ongoing, pervasive exposure to asbestos particles being released through documented exposure pathways. We cannot escape the fact that people are sick and dying as a result of this continuing exposure. Confronted with this information, the EPA determined on the basis of its professional judgment, and in accord with its administrative interpretation of the scope of removal actions, that the situation warranted an immediate, aggressive response to abate the public health threat.

Although we diverge from the district court's reasoning in some respects, we reach the same ultimate conclusion: The EPA's cleanup in Libby was a removal action that was exempt from the temporal and monetary cap. In light of the EPA's expertise in this area, we owe considerable deference, albeit not necessarily full Chevron deference, to its characterization of the cleanup activities as a removal action. *See Chevron U.S.A., Inc. v. Natural Res. Def. Council*, 467 U.S. 837 (1984). We therefore affirm the judgment of the district court.

Background

The outcome of this case is controlled by our interpretation of key provisions of CERCLA, a comprehensive statutory scheme to respond to environmental threats, obtain compensation from those responsible for the polluting activities, and assign liability to responsible parties. *See* Pub. L. No. 96-510, 94 Stat. 2767 (1980). Before applying CERCLA to the case at hand, we begin with a brief review of this statute as well as the background on the hazards afflicting Libby.

I. CERCLA

A key component of CERCLA was the establishment of a trust fund, commonly known as "Superfund," for use when responding to the release or threat of release of hazardous substances into the environment. *See* CERCLA, Subtitle B–Establishment of Hazardous Substance Response Trust Fund § 221, 94 Stat. at 2801-02; *see also* Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (1986). Today, Superfund expenditures are directed by the provisions of CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan ("National Contingency Plan"), 40 C.F.R. pt. 300.[3]

CERCLA and the National Contingency Plan divide response actions into two broad categories: removal actions and remedial actions. *See* 42 U.S.C. § 9601(25). Removal actions[4] are typically described as time-sensitive responses

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[3] The National Contingency Plan "specifies procedures for preparing and responding to contaminations and was promulgated by the [EPA] pursuant to CERCLA." *Cooper Indus., Inc. v. Aviall Servs., Inc.*, 543 U.S. ___, 125 S. Ct. 577, 580 n.2 (2004); *see also* 42 U.S.C. § 9605. Last revised in 1994, *see* 59 Fed. Reg. 47,384 (Sept. 15, 1994), the National Contingency Plan has undergone several rounds of revisions since its initial publication.

[4] Although "removal action" is not itself defined in CERCLA, "remove" and "removal" are defined. In light of the central importance of the definition to this case, it is worth citing the rather cumbersome definition in its entirety:

> The terms "remove" or "removal" means the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the

to public health threats for which the EPA is granted considerable leeway in structuring the cleanup. *See*, e.g., *Minnesota v. Kalman W. Abrams Metals, Inc.*, 155 F.3d 1019, 1024 (8th Cir. 1998) (describing "removal actions" as "those taken to counter imminent and substantial threats to public health and welfare"). Superfund-financed removal actions generally are required to "be terminated after $2 million has been obligated for the action or 12 months have elapsed from the date removal activities begin on-site." 40 C.F.R. § 300.415(b)(5). These limitations are not, however, inviolate. The EPA[5] may exceed this cap if it determines one of two exemptions applies:

> There is an immediate risk to public health or welfare of the United States or the environment; continued response actions are immediately required to prevent, limit, or mitigate an emergency; and such assistance will not otherwise be provided on a timely basis; or
>
> Continued response action is otherwise appropriate and consistent with the remedial action to be taken.

40 C.F.R. § 300.415(b)(5); *see also* 42 U.S.C. § 9604(c)(1).

> environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b) of this title, and any emergency assistance which may be provided under the Disaster Relief and Emergency Assistance Act.

42 U.S.C. § 9601(23).

[5] In Executive Orders 12,580 and 12,777, the President delegated most functions and responsibilities to the EPA that were vested in him by CERCLA. *See* 40 C.F.R. § 300.100.

Remedial actions,[6] on the other hand, are often described as permanent remedies to threats for which an urgent response is not warranted. *See, e.g.*, *Pub. Serv. Co. of Colo. v. Gates Rubber Co.*, 175 F.3d 1177, 1182 (10th Cir. 1999) ("In broad contrast, a remedial action seeks to effect a

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[6] As with "removal," the definition of "remedial action" has a maze-like structure:

> The terms "remedy" or "remedial action" means those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment. The term includes, but is not limited to, such actions at the location of the release as storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavations, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, and any monitoring reasonably required to assure that such actions protect the public health and welfare and the environment. The term includes the costs of permanent relocation of residents and businesses and community facilities where the President determines that, alone or in combination with other measures, such relocation is more cost-effective than and environmentally preferable to the transportation, storage, treatment, destruction, or secure disposition offsite of hazardous substances, or may otherwise be necessary to protect the public health or welfare; the term includes offsite transport and offsite storage, treatment, destruction, or secure disposition of hazardous substances and associated contaminated materials.

42 U.S.C. § 9601(24).

permanent remedy to the release of hazardous substances when there is no immediate threat to the public health.").

The distinction between removal and remedial actions is critical under CERCLA because "[b]oth types of actions have substantial requirements, but the requirements for remedial actions are much more detailed and onerous." *Morrison Enters. v. McShares, Inc.*, 302 F.3d 1127, 1136 (10th Cir. 2002). For example, remedial actions are only eligible for Superfund financing when the site is listed on the National Priorities List.[7] *See* 40 C.F.R. § 300.425(b)(1). Further, the EPA is required to consider costs when selecting remedial alternatives whereas "CERCLA contains no corresponding mandate for removal actions." *United States v. Hardage*, 982 F.2d 1436, 1443 (10th Cir. 1992); *see also* 40 C.F.R. § 300.430 (listing requirements for a selection of remedy including consideration of effectiveness, permanence, and cost). Because CERCLA provides that responsible parties shall be liable for "all costs of removal or remedial action incurred by the United States Government ... not inconsistent with the national contingency plan," this distinction is vital to those held liable. 42 U.S.C. § 9607(a)(4).

II. HISTORY OF THE EPA'S CLEANUP ACTIVITIES IN LIBBY

The roots of this case stretch back nearly a century to the beginning of mining operations in the vicinity of Libby. It was not until the late 1990s, however, that the extent of the problem came to light fully, leading to the EPA's cleanup action.

A. ASBESTOS CONTAMINATION IN LIBBY

From the 1920s until 1990, Grace and its predecessors mined and processed vermiculite—a mineral containing a

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[7] The National Priorities List is "the list, compiled by EPA pursuant to CERCLA section 105, of uncontrolled hazardous substance releases in the United States that are priorities for long-term remedial evaluation and response." 40 C.F.R. § 300.5

type of asbestos called tremolite—at a mine approximately seven miles northeast of Libby. *See Grace I* at 1138-41 (describing factual background in an order granting the EPA's motion for summary judgment). Processed ore was trucked to screening plants and expansion/export plants from which the materials were distributed nationwide. Vermiculite was also available for employees to take home for their personal use, and Grace donated vermiculite to the local schools.

Although Grace did not cease mining and processing operations in Libby until 1990, state and federal agencies conducted studies on the health effects of the mining operations as early as the 1940s. These efforts were, however, focused on workplace exposure rather than contamination in the greater Libby community. For example, in the 1940s and 1950s, the Montana State Board of Health issued several industrial hygiene studies to determine whether the mine's operations were detrimental to the employees' health. In 1992, the EPA issued a written determination on the applicability of the National Emissions Standards for Hazardous Air Pollutants to a road on the mine property. However, no CERCLA activities were performed in Libby prior to the EPA's commencement of an investigation in 1999 that led to the current cleanup.

B. THE EPA'S INVOLVEMENT IN LIBBY

After beginning its investigation in November 1999, the EPA issued a Sampling and Quality Assurance Project Plan in December, followed by a more comprehensive revised plan in January 2000. The plan "address[ed] questions and concerns raised by citizens of Libby regarding possible ongoing exposures to asbestos fibers as a result of historical mining, processing and exportation of asbestos-containing vermiculite." The EPA's immediate efforts were directed toward (1) obtaining information on airborne asbestos levels in order to judge whether a time-critical intervention was needed to protect public health, and (2) obtaining data on friable asbestos levels in potentially contaminated materials

around Libby. The EPA stated that "[t]he first decision to be made is whether or not time-critical intervention is needed to protect public health."

In his testimony before the Senate's Environment and Public Works Committee in February 2000, the EPA's regional administrator attested that the initial investigation confirmed two things: (1) "a large number of current and historic cases of asbestos related diseases centered around Libby," including "33 incidents of apparently non-occupational exposures"; and (2) a "high likelihood that significant amounts of asbestos contaminated vermiculite still remain in and around Libby." Vermiculite from the mine's waste piles was "commonly used by local residents in their yards and gardens as a soil conditioner." It was also used to create running tracks and baseball fields for nearby schools. The residents were particularly concerned because children regularly played in and around piles of vermiculite. These findings compelled the EPA to undertake more expansive testing. To put it mildly, subsequent testing showed asbestos contamination to be pervasive.

Because asbestos is generally only harmful if inhaled or ingested, the mere presence of asbestos does not necessarily constitute an immediate threat. But the situation in Libby did not present this benign scenario. Instead, the EPA documented "complete human exposure pathways" through which asbestos particles were becoming airborne as a result of normal human activities, such as foot traffic and vacuuming, and natural forces, such as wind—especially during the dry summer months. This migration transformed the latent threat of undisturbed asbestos into a current hazard to anyone breathing the airborne particles. For example, residents described halting baseball games when large dust clouds swept over the field carrying particles from exposed piles of vermiculite. A study of Libby residents conducted in 2000 by the Agency for Toxic Substances and Disease Registry not only found that most participants reported multiple routes of exposure, but also that 18% of those x-rayed had abnormalities in the lining of

their lungs—as compared with the expected rate of 0.2% to 2.3% for groups living in the United States who have no known asbestos exposures.

These findings led the EPA to set out the intended removal action in a series of three memoranda issued between May 2000 and May 2002, which progressively broadened the scope of the cleanup. The original action memorandum, dated May 23, 2000 ("First Action Memo"), covered a former vermiculite export plant and screening plant, the former of which was being used as a retail lumber mill and the latter as a combined commercial/residential property.[8] The First Action Memo authorized a time-critical removal action[9] to be completed by spring/summer 2001 with a total project ceiling of approximately $5.8 million for the two sites. The EPA determined that the action met the requirements to exceed the $2 million, 12-month cap because the asbestos in the environment posed an immediate threat to the local population; a cleanup beyond the cap was required to prevent, limit, or mitigate an emergency because of the size of the cleanup and the short construction season; and assistance from other government agencies was not anticipated on a timely basis.

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[8] Grace largely conducted the cleanup of the export plant in response to an EPA order dated May 23, 2000.

[9] The EPA describes the cleanup in Libby as a single removal action both in the action memoranda and its briefs to this court: "EPA authorized *a removal action* to remove asbestos-contaminated materials from hundreds of homes, businesses, yards, gardens, school athletic fields, driveways, and mining plant facilities." (emphasis added). Likewise, on appeal, Grace argues that the district court erred "by granting the United States summary judgment with respect to the validity of EPA's characterization of the Libby response action as a removal rather than a remedial action." Accordingly, we analyze the EPA's activities in Libby as a single response action rather than a patchwork of discrete smaller actions. *Cf. Colorado v. Sunoco, Inc.*, 337 F.3d 1233, 1241 (10th Cir. 2003) (concluding that there can be but one "removal action" per site).

The EPA then broadened the scope of the cleanup in an action memorandum amendment, dated July 20, 2001 ("Second Action Memo"), which covered "newly identified risks" at six additional locations and requested increased funding for costs associated with Grace's reported denial of access to the screening plant. The six sites included two private residences, three local schools, and a public road running past the mine site. Among the EPA's foremost concerns were the high asbestos concentrations in the materials at these sites and the easily crumbled state of the exposed asbestos. For example, the EPA found nuggets of tremolite around the high school track that it described as "readily friable, releasing copious amounts of fibers upon degradation." The EPA measured asbestos concentrations of 2% by polarized light microscopy ("PLM") at a pile of vermiculite at one residence, and concentrations up to 1.5% in material scraped off equipment at the other residence.[10] Samples taken from materials visible outside the elementary school indicated that the area contained asbestos at levels between 3% to 8% by PLM, and testing at the road showed asbestos concentrations up to 5%. As with the First Action Memo, the EPA determined that the situation warranted an exemption from the cap and,

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[10] To put these numbers into perspective, in the First Action Memo, the EPA explained how asbestos concentrations in soil translate into risks to the public health:

> Currently EPA has not established, under any of its regulatory programs, an asbestos level in soil below which an exposure does not pose a risk. The 1% cut-off level for regulation under the Toxic Substances Control Act abatement program was established on the basis of analytical capability at the time, and was not established based on the level of risk represented. To the contrary, at Superfund sites in California EPA Region IX found in certain settings that concentrations of asbestos less than 1% posed unacceptable inhalation risks when subject to disturbance by traffic.

Significantly, the asbestos was in a friable state.

consequently, authorized a total site removal ceiling of approximately $20.1 million with an estimated completion date for most of the work by winter 2001/02.

The EPA expanded the removal action again in an action memorandum amendment, dated May 2, 2002 ("Third Action Memo"), which brought a number of homes and businesses in Libby within the ambit of the removal action. The EPA again determined that an exemption from the statutory cap was warranted. In addition, although Libby was not added to the National Priorities List until October 2002, *see* 67 Fed. Reg. 65,315 (Oct. 24, 2002), the EPA proposed that the site be added in February 2002. The Third Action Memo also explained that the removal action was consistent with a planned future remedial action.[11] The EPA estimated that the proposed work would take two to three construction seasons, and it raised the total project ceiling to approximately $55.6 million. The EPA continued removal activities consistent with its various Action Memos.[12]

C. Cost-Recovery Action Against Grace

The EPA filed suit against Grace in March 2001 seeking recovery of all response costs incurred by the government and a declaration that Grace would be liable for future costs. *See* 42 U.S.C. §§ 9607, 9613(g)(2). In December 2002, the district court granted the EPA summary judgment on the liability issue but determined that there were material issues of fact regarding costs associated with certain properties. *Grace I*, 280 F. Supp. 2d at 1148.

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[11] The EPA proposed that the Libby site be added to the National Priorities List in February 2002 so that a remedial response action could be conducted. In October 2002, the site was officially added to the List. *See* 67 Fed. Reg. 65,315 (Oct. 24, 2002).

[12] According to the EPA's CERCLIS database, the EPA currently is in the study and remedy selection phase and a final remedy has not been selected for the Libby site. *See* http://cfpub1.epa.gov/supercpad/cursites/csitinfo.cfm?id=0801744 (last visited July 26, 2005).

After a three-day bench trial, the district court issued an order awarding the EPA the full $54.53 million in reimbursement requested, including $11.32 million in indirect costs, and granting a declaratory judgment that Grace would be liable for future cleanup costs. *United States v. W.R. Grace & Co.*, 280 F. Supp. 2d 1149 (D. Mont. 2003) ("*Grace II*"). This appeal followed.

ANALYSIS

The EPA's ability to recover the costs of its cleanup in Libby hinges on whether its response is properly characterized as a removal action, as argued by the EPA and found by the district court, or a remedial action, as argued by Grace.[13] The tangled language of CERCLA hardly lends itself to clearcut distinctions between the two types of actions. Nonetheless, certain overarching attributes emerge with the time-sensitivity of the threat and the significance of the public health threat as key factors underlying removal actions. In Libby, the EPA determined that there was a serious threat to public health that required a time-sensitive response, and it acted on this information.

We emphasize at the outset that the EPA's response action in Libby is no mere run-of-the-mill CERCLA cleanup. As the EPA itself recognizes, the Libby cleanup is a unique

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[13] Under CERCLA's burden-shifting procedures, once the EPA establishes its prima facie case for response costs, the burden shifts to Grace to prove that the response was inconsistent with the National Contingency Plan. *See United States v. Chapman*, 146 F.3d 1166, 1169 (9th Cir. 1998). Specifically, CERCLA provides that responsible parties shall be liable for "all costs of removal or remedial action incurred by the United States Government ... not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a)(4). Because the National Contingency Plan prescribes heightened requirements for a remedial action, a threshold inquiry is whether the action was a removal or remedial action. The EPA does not dispute that the cleanup did not meet the National Contingency Plan's procedural requirements for a remedial action.

removal action of a size and cost not previously seen. But the situation in Libby was, and remains today, truly extraordinary.

I. Removal Or Remedial Action: Structure Of The Two-Step Inquiry And Application To The Cleanup In Libby

The district court concluded, based on an arbitrary and capricious standard of review, that "[the EPA's] decision to conduct a removal action rather than a remedial action is consistent with the [National Contingency Plan] and cannot be second-guessed by this Court." *Grace I*, 280 F. Supp. 2d at 1143. We take a slightly different tack. CERCLA provides that the selection of response actions shall be upheld "unless arbitrary and capricious or otherwise not in accordance with the law." 42 U.S.C. § 9613(j)(2). We agree that it was not arbitrary and capricious for the EPA "to approve a time-critical removal action." *Id.* at 1144. However, the statutory scheme compels us to take the inquiry one step further. *See Martinez-Villareal v. Lewis*, 80 F.3d 1301, 1305 (9th Cir. 1996) ("We may affirm on any ground supported by the record even if it differs from the rationale of the district court.").

Under CERCLA, once the response action is selected—in this case as a removal based on "an imminent and substantial danger to the public health"—then the EPA is authorized to take necessary actions consistent with the National Contingency Plan. *See* 42 U.S.C. § 9604(a)(1). Regulations implementing the Plan provide that "[i]f the [EPA] determines that a removal action is appropriate, actions shall, as appropriate, begin as soon as possible to abate, prevent, minimize, stabilize, mitigate, or eliminate the threat to public health or welfare of the United States or the environment." 40 C.F.R. § 300.415(b)(3). Thus, even if the EPA's *selection* of a removal action was proper, the question remains whether the actions *actually taken* by the EPA to combat the threat are properly categorized as such.

We agree with Grace that this second step of our inquiry is a question of law: Does the EPA's response action in Libby fall within the statutory limits of a removal action? Grace's challenge is built on the premise that the EPA termed its cleanup in Libby a removal action as a subterfuge when the response was, in substance, a remedial action.[14] To resolve this question, we must explore the statutory confines of removal actions under CERCLA and, within this legal structure, ask to what extent we should defer to the EPA's interpretation based on the agency's expertise.

A. Decision To Conduct A Removal Action In Libby

The EPA's initial decision to conduct a removal action must be upheld unless Grace can demonstrate on the administrative record that the decision was arbitrary and capricious or otherwise not in accordance with law. 42 U.S.C. § 9613(j)(2). Grace has not met this burden.

The National Contingency Plan requires the EPA to consider a series of factors[15] to determine that it was

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[14] Grace attributes the timing and scope of the EPA's cleanup to intense media attention regarding conditions in Libby. We have previously rejected an "ulterior motive" analysis in a challenge to whether CERCLA response costs incurred by a private landowner were necessary: "The issue is not why the landowner decided to undertake the cleanup, but whether it was necessary. To hold otherwise would result in a disincentive for cleanup." *Carson Harbor Vill., Ltd. v. Unocal Corp.*, 270 F.3d 863, 871-72 (9th Cir. 2001) (en banc) (citation omitted). This logic applies with equal force when the EPA is a party. We therefore do not inquire into the EPA's subjective motives behind the cleanup, but rather ask if the objective evidence supports the response.

[15] 40 C.F.R. § 300.415(b)(2) provides that "[t]he following factors shall be considered in determining the appropriateness of a removal action ...:"

> (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

appropriate to initiate a removal action. *Cf. Chapman*, 146 F.3d at 1171-73 (holding that the EPA did not act arbitrarily or capriciously in ordering a removal action after considering the § 300.415(b)(2) factors). The EPA did so and its findings are extensively documented.

The First Action Memo discusses five of the eight factors[16] in concluding that the conditions in Libby presented an imminent and substantial threat to human health and the environment that met the regulatory criteria. Chief among the factors was that complete exposure pathways existed through which people were being exposed to asbestos. The First Action Memo details specific threats, including that "there are over 3000 three gallon buckets of unexpanded Libby vermiculite" being used at a mushroom farm at the former screening plant, and that surface soils contained visible vermiculite that could readily migrate.

The magnitude of the current and potential impact on public health resulting from the widespread use of

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(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

(vi) Threat of fire or explosion;

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and

(viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

[16] Specifically, the memo invokes the first, third, fourth, fifth, and seventh factors listed in 40 C.F.R. § 300.415(b)(2).

vermiculite by Libby residents led the EPA in its Second Action Memo to invoke the catch-all eighth factor—"[o]ther situations or factors that may pose threats to public health or welfare of the United States or the environment," 40 C.F.R. § 300.415(b) (2)(viii):

> The sheer magnitude of the medical impact in Libby dictates the need for an expedient and thorough response. Unfortunately, because of the latencies of asbestos related diseases there is no easy way to directly correlate exposure to amphibole asbestos today to the direct development of an asbestos related disease. The only way to determine this for certain is to observe an individual for 10 to 40 years after exposure to see if they become sick. However, waiting for this type of certainty is unconscionable. CERCLA was designed and enacted to prevent illness and death resulting from exposure to hazardous substances, not wait for its occurrence to prove a threat.

Finally, the Third Action Memo cites several factors in support of the EPA's decision to expand the removal action and asserts that "[t]he significant medical impact of asbestos exposure in Libby dictates the need for an expedient and thorough response." In light of the EPA's carefully documented reasoning in the three Action Memos, we agree with the district court that the EPA's decision to approve a removal action was not arbitrary and capricious. *See* 42 U.S.C. § 9613(j)(2). This threshold decision does not, however, end our inquiry. We must consider how to classify the EPA's action.

B. Characterization Of The EPA's Response Action

The question remains whether the steps actually taken by the EPA to combat the threat are properly characterized as a removal action. Whether the EPA's cleanup activity was a removal action—or, on the other hand, a remedial action in

removal action's clothing—is a question of statutory interpretation. "Congress provided definitions for 'removal' and 'remedial action,' and the classification of the activity is determined as a matter of law." *Geraghty & Miller, Inc. v. Conoco Inc.*, 234 F.3d 917, 925-26 (5th Cir. 2000) (footnotes omitted); *see also Sunoco*, 337 F.3d at 1242 ("Nothing in [42 U.S.C.] § 9613(j)(2) refers to the EPA's characterization of a particular action [as a removal or remedial action]."). The decision to select a removal or remedial action is therefore distinct from the question whether the action carried out was, in fact, the action selected. It is to this crucial inquiry that we now turn.

The statutory interpretation of "removal" is a legal issue that we review as a matter of law. *See Carson Harbor Vill.*, 270 F.3d at 870. But in addressing the statute, the parties disagree as to the level of deference, if any, that we should grant the EPA's formulation of the term "removal." Resolving this question requires that we consider the Supreme Court's recent refinement of the traditional agency-deference analysis under *Chevron*. *See* 467 U.S. at 842-45; *United States v. Mead Corp.*, 533 U.S. 218, 226-27 (2001) (*Chevron* applies "when it appears that Congress delegated authority to the agency generally to make rules carrying the force of law, and that the agency interpretation claiming deference was promulgated in the exercise of that authority.").

Following *Mead*, the continuum of agency deference has been fraught with ambiguity. *Compare Barnhart v. Walton*, 535 U.S. 212, 221 (2002) (applying *Chevron* deference even though the EPA reached its interpretation through means less formal than "notice and comment" rulemaking) *with Mead*, 533 U.S. at 226-27 (agency's tariff classification had "no claim to judicial deference under *Chevron*, there being no indication that Congress intended such a ruling to carry the force of law"). Our decisions understandably have been conflicted as to whether *Chevron* deference only applies upon formal rulemaking and whether lesser deference applies in other situations. *See, e.g., Cal. Dep't of Soc. Servs.*

v. Thompson, 321 F.3d 835, 847-48 (9th Cir. 2003) (discussing how *Mead* and *Walton* have "further obscured the already murky administrative law surrounding *Chevron*"); *Davis v. United States EPA*, 348 F.3d 772, 779 n.5 (9th Cir. 2003) ("The mere fact that the EPA engaged in informal agency adjudication ... does not vitiate the *Chevron* deference owed to the agency's interpretation ...."). As Justice Scalia presciently noted in his dissent in *Mead*, "We will be sorting out the consequences of the *Mead* doctrine, which has today replaced the *Chevron* doctrine, for years to come." 533 U.S. at 239 (Scalia, J., dissenting).

The Supreme Court's most recent pronouncement in *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005), calls into question whether *Mead* in fact "replaced" *Chevron* as Justice Scalia contends. Perhaps because Brand X involved formal rulemaking, *see id.* at 2699, the Court did not clarify whether there is a "deference distinction" between *Chevron* and *Mead*. Nonetheless, in Brand X the majority's language explaining *Chevron* is quite broad and does not come with a proviso that the *Chevron* deference is limited to agency interpretations expressed through formal rulemaking. *See id.* ("In *Chevron*, this Court held that ambiguities in statutes within an agency's jurisdiction to administer are delegations of authority to the agency to fill the statutory gap in reasonable fashion."); *id.* at 2700 ("*Chevron's* premise is that it is for agencies, not courts, to fill statutory gaps.").

The interplay between *Chevron* and *Mead* is highlighted in Justice Breyer's concurrence, in which he writes that "the existence of a formal rulemaking proceeding is neither a necessary nor a sufficient condition for according *Chevron* deference to an agency's interpretation of a statute." *Id.* at 2712 (Breyer, J., concurring). This explanation stands in contrast to Justice Scalia's dissents in *Brand X* and *Mead*. *See id.* at 2713-21; *Mead*, 533 U.S. at 239-61. Echoing his dissent in *Mead*, Justice Scalia proffers in his *Brand X* dissent that "*Mead* drastically limited the categories of agency action that would qualify for deference under

Chevron." 125 S. Ct. at 2718 (Scalia, J., dissenting). Rather than clarifying what these categories are, Justice Scalia advances that, in *Brand X*, the Court "continues the administrative-law improvisation project it began four years ago in [*Mead*]." *Id.*

Because the discussion in *Brand X* leaves some doubt as to the degree of formality of the underlying agency interpretation that is required for *Chevron* deference, we look to the post-*Mead* Supreme Court decision that most closely resembles the circumstances we face here. The Court explained last year in *Alaska Department of Environmental Conservation v. EPA*, 540 U.S. 461, 487-88 (2004), that the EPA's interpretation of a statute in internal guidance memoranda warrants respect but does not qualify for *Chevron* deference. Although the Court cited *Mead* in rejecting *Chevron* deference, it accorded "respect" to the "EPA's reading of the relevant statutory provisions." *Id.* at 488. Accordingly, at a minimum, we impose a modified deference standard affording respect to the EPA's informal interpretations here. But either under modified deference or full *Chevron* deference, the result would be the same: The EPA's cleanup activities in Libby are properly categorized as a removal action.

Despite the EPA's insistence that arbitrary and capricious review applies to all aspects of our inquiry, the statute does not support this reading. CERCLA requires that we uphold the EPA's "decision in selecting the response action" unless arbitrary and capricious or otherwise not in accordance with the law. 42 U.S.C. § 9613(j)(2). Here we address not the EPA's selection of its remedy, but rather whether the actions taken fall within the statutory definition of a removal. Thus, we consider whether the statutory construction that the EPA advances in this litigation is correct as a matter of law. The degree of deference granted to the EPA's interpretation of a statute is considered in light of Chevron and its progeny. *See Alaska Dep't of Envtl. Conservation*, 540 U.S. at 487-88. In contrast, an agency's actions exercised under its statutory authority are generally subject

to arbitrary and capricious review. *See id.* at 496-97 (applying arbitrary and capricious review to the EPA's taken actions under the Clean Air Act); *see also* 5 U.S.C. § 706(2) (applying arbitrary and capricious review to agency conclusions and findings).

With the Supreme Court's recent agency-deference cases as a backdrop, we begin with *Chevron's* first step and ask "whether Congress has directly spoken to the precise question at issue," *Chevron*, 467 U.S. at 842, i.e., whether a response action such as the one carried out in Libby is a removal or remedial action.[17] If Congress has "unambiguously expressed [its] intent," then our inquiry ends there, for that intent must be given effect as law. *Id.* at 842-43. If, however, the statute is ambiguous, then we look to the EPA's interpretation of the statute. Even if full-blown *Chevron* deference is not due because of the informal nature of the interpretation, we will still accord a modified level of respect because "*Chevron* did nothing to eliminate *Skidmore's*[18] holding that an agency's interpretation may

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[17] Although we have touched on the interplay between removal and remedial actions under CERCLA in prior decisions, the specific contexts in which those cases arose render them of limited use to our decision here. *See California v. Neville Chem. Co.*, 358 F.3d 661, 667, 670 (9th Cir. 2004) (concluding that for the purposes of "the onset of the limitations period for recovery of remedial action costs under CERCLA," no action can be "remedial" until adoption of a final remedial action plan); *Hanford Downwinders Coalition, Inc. v. Dowdle*, 71 F.3d 1469, 1475, 1477 n.10 (9th Cir. 1995) (holding that a government health assessment was a "removal or remedial action entitled to the protection of [42 U.S.C.] § 9613(h)" without the need to clarify the distinction between the two types of actions).

[18] The Court explained in *Skidmore v. Swift & Co.* that "[t]he weight [accorded to an administrative] judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control." 323 U.S. 134, 140 (1944); *see also Sunoco*, 337 F.3d at 1243 (concluding that the

merit some deference whatever its form." *Mead*, 533 U.S. at 234; *see also Wilderness Soc'y v. United States Fish & Wildlife Serv.*, 353 F.3d 1051, 1059-62 (9th Cir. 2003) (en banc), *amended by* 360 F.3d 1374 (2004) (applying this analytical framework to review of an agency's interpretation). Put simply, even if EPA manuals, policy statements, and other pronouncements "are beyond the *Chevron* pale," *Mead*, 533 U.S. at 234, they are not beyond the reach of our deference.

As elaborated below, the statutory definition of "removal" is vague and, consequently, the EPA's construction of this statutory term warrants our deference. In light of this deference and the well-documented record of the scope of cleanup activity, we hold that the EPA's action in Libby is properly characterized as a removal action. In so holding, we recognize that the emphasis on time-sensitivity both in the EPA's selection of a removal action and in our decision whether the action carried out actually was a removal action threatens to collapse the two issues into a single "immediacy" inquiry. Our review of the EPA's decision to conduct a removal action is limited to whether the EPA considered the eight factors under 40 C.F.R. § 300.415(b)(2). In contrast, although immediacy is a paramount consideration when evaluating whether the action indeed was a removal, this second phase of our inquiry is not bound by those eight factors. For example, we also consider, among other things, the interplay between a removal and remedial action conducted at a single site and whether the action comports with the examples in 40 C.F.R. § 300.415(e).

Grace contests the denomination of the action as a removal by cherry-picking discrete cleanup activities which, standing alone, might fall within the ambit of a remedial action. We refrain from slicing and dicing the EPA's single, cohesive removal action into a myriad of fractured parts.

EPA's characterization of a response action deserves *Skidmore* deference).

Such atomization would undermine the EPA's scientific and administrative expertise by requiring us to second-guess whether, for example, the excavation of soil at the local elementary school was a remedial action because 1000 cubic yards of soil was removed when perhaps removal of less soil or less drastic measures could have been employed to counteract the immediate threat. Instead, we take a more comprehensive view of the administrative record in concluding that the EPA's response was a removal action.

1. STATUTORY INTERPRETATION: REMOVAL AND REMEDIAL ACTIONS

The first step under *Chevron* requires a straightforward exercise in statutory interpretation: "If a court, employing traditional tools of statutory interpretation, ascertains that Congress had an intention on the precise question at issue, that intention is the law and must be given effect." *Chevron*, 467 U.S. at 843 n.9.

We begin with the statutory definitions because "[w]hen a statute includes an explicit definition, we must follow that definition, even if it varies from that term's ordinary meaning." *Stenberg v. Carhart*, 530 U.S. 914, 942 (2000). It has become de rigueur to criticize CERCLA as a hastily passed statute that is far from a paragon of legislative clarity. *See, e.g., Exxon Corp. v. Hunt*, 475 U.S. 355, 363 (1986) (commenting that a provision in CERCLA "is not a model of legislative draftsmanship"); *Carson Harbor Vill.*, 270 F.3d at 883 ("Clearly, neither a logician nor a grammarian will find comfort in the world of CERCLA."). The definitions of removal and remedial action exemplify this muddled language. *See* 42 U.S.C. § 9601(23) (defining "removal"); *id.* § 9601(24) (defining "remedial action"); *id.* § 9601(25) (defining "response"); *see also supra* notes 4, 6 (quoting definitions).

The definition of "removal" is written in sweeping terms. It begins with the general statement that "removal" means "the cleanup or removal of released hazardous substances from the environment." 42 U.S.C. § 9601(23). The definition

goes on to describe three categories of events that trigger removal: (1) "such actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment"; (2) "such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances"; and a third catch-all category, (3) "such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release." *Id.*

Finally, the definition lists a number of specific activities that fall within the definition of "removal"—"alternative water supplies," "temporary evacuation and housing," and "emergency assistance." Although at first glance this half of the definition appears to provide concrete guidance by listing identifiable activities such as "security fencing," this part too is left vague by the opening caveat that the term "removal" "includes, in addition, without being limited to, security fencing ...." *Id.* Consequently, "these examples serve only as a guide to what activities may appropriately be classified as 'removal action.'" *Hanford Downwinders Coalition*, 71 F.3d at 1478 n.13.

The definition of "remedial action" is similarly broad, but can be distinguished from "removal" because it refers to "permanent" remedies and its list of specific actions is, in large part, distinct from the list included under "removal." (For example, "removal" is focused on temporary and emergency activities.) To begin, the definition states that a "remedial action" is an action "consistent with permanent remedy taken instead of or in addition to removal actions." 42 U.S.C. § 9601(24). Although the section begins with this clear language, it threatens to collapse into the definition of "removal" because it includes those actions "taken instead of or in addition to removal actions" and is triggered "in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public

health or welfare or the environment." *Id.* Thus, the triggering factors begin to sound virtually similar to the triggering factors for a "removal" action. In fact, two of the triggering factors for "removal" are almost identical to the factors for "remedy":

Removal — 42 U.S.C § 9601(23)	Remedy — 42 U.S.C. § 9601(24)
"such actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment"	"those actions consistent with permanent remedy taken in the event of a release or threatened release of hazardous substances into the environment"
"such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release"	"those actions consistent with permanent remedy taken to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare of the environment.

The definition concludes with three lists of specific examples classified as a remedy, such as "segregation of reactive wastes." The first list details various locations of the release. As with the term "removal," the definition for the first list diminishes the examples' guidance with the qualifying language that the term "includes, but is not limited to," the listed examples. *Id.* The second list spells out when permanent relocation of residents, businesses, and community facilities is appropriate. Finally, the third list is a list of actions included within "remedy," ranging from offsite storage to disposition of hazardous substances.

Adding to the confusion is the overlap between the two definitions. *See Neville Chem. Co.*, 358 F.3d at 667 (noting listing of "provision of alternative water supplies" under both "remedial action" and "removal"); *Geraghty & Miller*, 234 F.3d at 927 (noting overlap). Attempting to untie the Gordian knot of these definitions solely based on their plain meanings is thus unavailing.[19]

In interpreting "removal" and "remedial," we next follow the Supreme Court's guidance in taking a comprehensive, holistic view of CERCLA because it is a "fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme." *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 133 (2000) (quoting *Davis v. Mich. Dep't of Treasury*, 489 U.S. 803, 809 (1989)).

CERCLA makes clear that the EPA has the tools of both removal and remedial actions at its fingertips when there is a release or threatened release of a hazardous substance. Specifically, the EPA is authorized "to remove or arrange for the removal of, and provide for remedial action relating to such hazardous substance, pollutant, or contaminant at any time ..., or take any other response measure consistent with the national contingency plan which the [EPA] deems

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[19] Other courts have similarly been unable to extract answers from the statute's plain meaning:

> [T]hose courts which have attempted to unravel CERCLA's definitions have found no solace in either the "plain meaning" of the statute or the reams of legislative history. Instead, in an attempt to glean legislative intent, courts seem to resort to a sort of "Purkinje phenomenon," hoping that if they stare at CERCLA long enough, it will burn a coherent afterimage on the brain.

CP Holdings, Inc. v. Goldberg-Zoino & Assocs., Inc., 769 F. Supp. 432, 435 (D.N.H. 1991) (footnote omitted) (referring to "[a]n optical illusion named for Johannes E. Purkinje (1787-1869), whereby the eye retains an afterimage of an object in a different color from the original").

necessary to protect the public health or welfare or the environment." 42 U.S.C. § 9604(a)(1). The statute as a whole, however, does little to clarify how to categorize a given response action except to suggest that remedial actions may be "long term." *See, e.g., id.* § 9604(a)(2) (indicating that any removal action should contribute to the efficient performance of any "long term" remedial actions without further elaboration).

Nor does the purpose of the statute provide definitive guidance, though it points towards a liberal reading of "removal" in order to effectuate CERCLA's underlying purpose of "protect[ing] and preserv[ing] public health and the environment by facilitating the expeditious and efficient cleanup of hazardous waste sites." *Carson Harbor Vill.*, 270 F.3d at 880 (quoting *Pritikin v. Dept of Energy*, 254 F.3d 791, 794-95 (9th Cir. 2001) (internal quotation marks and citation omitted)); *see also, e.g., Sierra Club v. Seaboard Farms, Inc.*, 387 F.3d 1167, 1172 (10th Cir. 2004) (advocating that CERCLA be interpreted liberally so as to accomplish its remedial goals). Specifically, because a removal action can be initiated promptly after notification of a threat, a liberal reading provides the EPA with greater flexibility to use this tool for the protection of the public health.

Last, we turn to CERCLA's legislative history for guidance. *See BedRoc Ltd. v. United State*, 541 U.S. 176, 187 n.8 (2004) (noting "longstanding precedents that permit resort to legislative history only when necessary to interpret ambiguous statutory text"). *But see Johnson v. United States*, 529 U.S. 694, 723 (2000) (Scalia, J., dissenting) (criticizing majority's reliance on legislative history because "[o]ur obligation is to go as far in achieving the general congressional purpose as the text of the statute fairly prescribes—and no further").

Unfortunately, legislative history is particularly unhelpful because of the haphazard passage of CERCLA with many of the more lucid descriptions of the statute

falling under the oxymoronic category of post-enactment "history." *See, e.g.*, 126 Cong. Rec. S16,428 (daily ed. Dec. 12, 1980), *reprinted in* 1 The Environmental Law Institute, Superfund: A Legislative History 87 (Helen Cohn Needham & Mark Menefee eds., 1982) (hereinafter "Superfund History") (post-passage "clarification" by Sen. Stafford that "the purpose of [CERCLA] and the response plan is to protect the public health and welfare in its broadest sense"); *see also* Alfred R. Light, CERCLA Law and Procedure 12-18 (1991) (describing the "unusual back-room congressional compromise process" behind CERCLA); 1 Superfund History, *supra*, at xiii ("The emergence of this last-minute compromise hampers the ability of researchers to draw definitive conclusions from the otherwise extensive legislative history of CERCLA."). Considering that no committee or conference reports address the version of CERCLA that ultimately became law, it is apt to describe the search for legislative history as "somewhat of a snark hunt." *Carson Harbor Vill.*, 270 F.3d at 885.

Without the benefit of a definitive committee report or other deliberate congressional documents describing the genesis of the final bill, we are hesitant to rely on legislative history for guidance, especially in regard to the nuanced inquiry as to which side an action falls on the removal/remedial line. *See United States v. Adams*, 343 F.3d 1024, 1032 n.8 (9th Cir. 2003) (warning that subsequent legislative history is a "hazardous basis for inferring the intent of an earlier Congress") (quoting *United States v. McCoy*, 323 F.3d 1114, 1121 (9th Cir. 2003)).

What we can take away from the legislative history is the drafters' overarching concern that aggressive action be taken to protect the public health. *See, e.g.*, 126 Cong. Rec. S14,714 (daily ed. Nov. 19, 1980), *reprinted in* 1 Superfund History, *supra*, at 90 (statement of Sen. Mitchell) ("The Surgeon General of the United States has stated that toxic wastes may be the most serious threat to public health in our country in the next decade. So it is in this spirit of urgency that I cosponsor this substitute [bill] today.");

S. Rep. No. 96-848, at 2 (1980) (stating in report for unadopted draft of CERCLA that "the potential impact of toxic chemicals on the general public and environment through unsound hazardous disposal sites and other releases of chemicals is tremendous"); *see also* 55 Fed. Reg. 8666, 8725 (Mar. 8, 1990) (statement in comments to 1990 amendments to the National Contingency Plan that "Section 121 of CERCLA makes clear, and the legislative history confirms, that the overarching mandate of the Superfund program is to protect human health and the environment from the current and potential threats posed by uncontrolled hazardous waste sites."). Such statements encourage us to construe "removal" liberally to effectuate CERCLA's remedial purpose, but they do not illuminate the removal/remedial distinction. *Cf. Seaboard Farms*, 387 F.3d at 1172 ("[CERCLA] must be interpreted liberally so as to accomplish its remedial goals."); *Kelley v. E.I. DuPont de Nemours & Co.*, 17 F.3d 836, 843 (6th Cir. 1994) ("We conclude that Congress intended that the term 'removal action' be given a broad interpretation.").

In sum, we are unable to discern Congress's clear intent through the normal tools of statutory interpretation. The meanings of "removal" and "remedial action" under CERCLA are inescapably vague.

2. DEFERENCE TO THE EPA'S CHARACTERIZATION

Having concluded that Congress did not draw a clear line between removal and remedial actions, we turn to the second step under *Chevron* and ask whether, in view of the deference owed to the EPA, the Libby cleanup was a removal action as a matter of law. As noted earlier, the level of deference we accord to a given agency interpretation is directed by its form.

The administrative posture of CERCLA presents two types of agency interpretations. One is the National

Contingency Plan, which carries the force of law.[20] The second relates to informal agency interpretations, which at a minimum receive respect and, depending on the interplay of *Mead* and *Brand X*, may even deserve *Chevron* deference. Whichever of these applies, we reach the same result: We hold that the EPA has rationally construed CERCLA and that construction deserves our respect. *Cf. Alaska Dep't of Envtl. Conservation*, 540 U.S. at 485-88 (EPA "rationally construed" Clean Air Act in internal guidance memoranda, which construction deserved "respect and approbation" but not *Chevron* deference). As interpreted by the EPA, the removal/remedial distinction boils down to whether the exigencies of the situation were such that the EPA did not have time to undertake the procedural steps required for a remedial action, and, in responding to such a time-sensitive threat, the EPA sought to minimize and stabilize imminent harms to human health and the environment. The EPA did so here.

The definitions of "removal" and "remedial action" in the EPA-promulgated National Contingency Plan merely parrot CERCLA's definitions, aside from a few minor revisions for the National Contingency Plan context. *See, e.g.*, 40 C.F.R. § 300.5 (replacing "EPA" for "the President" in definition of "remedial action" and noting that, for the purpose of the National Contingency Plan, "remedial" and "removal" include enforcement activities related thereto). Because these definitions do nothing to interpret the definitions in CERCLA, they are unhelpful to our inquiry.

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[20] 40 C.F.R. § 300.2 explains that the President delegated to the EPA "the responsibility for the amendment of the [National Contingency Plan]." *See also id.* ("The [National Contingency Plan] is applicable to response actions taken pursuant to the authorities under CERCLA ...."); *Vigil v. Leavitt*, 381 F.3d 826, 834 (9th Cir. 2004) ("Congress has given EPA general rulemaking authority, which, when exercised, requires our deference in accordance with *Chevron*.") (citation omitted).

That being said, other parts of the National Contingency Plan offer some guidance. For instance, 40 C.F.R. § 300.415(e) sets forth examples of activities that are "as a general rule," appropriate as part of a removal action, but notes that the list "is not exhaustive and is not intended to prevent the lead agency from taking any other actions deemed necessary under CERCLA." *See also* 42 U.S.C. § 9601(23) (providing that the scope of removals is not limited to the examples in the statutory definition). The examples include, among others, fences or other site control precautions; capping of contaminated soils to reduce migration; excavation, consolidation, or removal of highly contaminated soils; and removal and treatment of hazardous materials where it will reduce the likelihood of human exposure. 40 C.F.R. § 300.415(e). The bulk of activities carried out in Libby easily fall within the scope of the listed examples. For instance, the EPA removed hazardous soil from the screening plant, restricted access to contaminated roads, installed a temporary cover on a school's ice skating rink, excavated and backfilled contaminated soil, and removed exposed piles of vermiculite.

Although "immediacy" is not used in the definition of "removal" either in CERCLA or the National Contingency Plan, the examples in 40 C.F.R. § 300.415(e) imply a level of urgency in addressing the threat both by expressly using the word "immediately," *see id.* § 300.415(e)(9) (providing alternative water supply "where necessary immediately to reduce exposure to contaminated household water"), and by describing looming threats against which prompt action is needed, *see, e.g., id.* § 300.415(e)(4) (capping contaminated soils "where needed to reduce migration of hazardous substances ... into soil, ground or surface water, or air"). Not surprisingly, the criteria used to determine whether the selection of a removal action is appropriate are similarly infused with this sense of immediacy. *See, e.g., id.* § 300.415(b)(2)(iv) (factors include whether there are hazardous substances in soils "largely at or near the surface, that may migrate").

The need for immediate action permeates the EPA's activities in Libby. The toxicologist's May 17, 2000, report that was attached to the First Action Memo concludes that "[a]irborne fiber concentrations in the residential area of Libby exceeded the present occupational Permissible Exposure Level (PEL) of 0.1 fiber/cubic centimeter established by OSHA 1994 (MRI, 1982)."[21] These levels translated into an immediate public health threat because, as documented in the health consultation by the Agency for Toxic Substances and Disease Registry, complete exposure pathways were present around Libby. For example, EPA investigations found deteriorating bags of vermiculite at the former screening plant, as well as vermiculite tailings at the surface of a walking path next to the Libby High School track. And the dilapidated condition of houses was such that "[i]n some Libby homes, vermiculite insulation is literally falling out into the living space from gaps around light fixtures and electrical switches." That these particles were present in people's homes and schools is especially troubling because, in contrast to standards set by OSHA for workers who are exposed to particles during an eight-hour workday, home and school contamination could result in exposure for twenty-four hours per day. In short, the carcinogenic fibers were widespread and, contrary to Grace's assertions, were not contained such that they would not be inhaled. As ominously observed by the EPA, "Of course once airborne, the fibers will migrate whichever way the wind blows."

The sequence of activities in Libby further comports with the EPA's description in the National Contingency Plan of the preferred development of response actions. The

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[21] The Permissible Exposure Level is for eight hours, not twenty-four. Although Grace argues that the EPA's toxicologist's report is incorrect, it does not cite to the report of any other experts who concluded otherwise. Nor does Grace cite to any provisions of OSHA that require a different protocol for the taking of samples which the EPA's expert did not follow.

National Contingency Plan provides that the agency should orderly transition from a removal to a remedial action if it "determines that the removal action will not fully address the threat posed by the release." 40 C.F.R. § 300.415(g). This progression is evidenced by the three Action Memos for Libby, which began by calling for a removal action but later paved the way for a remedial action.[22] Indeed, the First Action Memo notes that the proposed removal action "should compliment and contribute to the overall success of any remedial actions in the future." The Third Action Memo further states, "Continued response actions are appropriate and consistent with the remedial actions to be taken." Thus, the EPA conducted its removal action in Libby not in lieu of a remedial action, but rather as a prelude to a comprehensive remedial action.

Looking beyond the National Contingency Plan, the EPA's characterization of response actions in documents that do not have the heft of regulations still carry weight because "[c]ogent 'administrative interpretations ... not [the] products of formal rulemaking ... nevertheless warrant respect.' "*Alaska Dep't of Envtl. Conservation*, 540 U.S. at 488 (quoting *Wash. State Dep't of Soc. & Health Servs. v. Guardianship Estate of Keffeler*, 537 U.S. 371, 385 (2003) (alterations in original)); *see also FTC v. Garvey*, 383 F.3d 891, 903 (9th Cir. 2004) (where *Chevron* deference does not apply, "[an agency's] pronouncement's persuasiveness may nevertheless entitle it to respect"). The need for agency expertise is particularly acute when we are faced with a complex regulatory regime, such as CERCLA. In this situation, we recognize that the "well-reasoned views of an expert administrator rest on a body of experience and

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[22] We note, however, that there need not be a linear progression from a removal to a remedial action. For example, "removal actions may be conducted in response to a time-critical situation at a remedial response site." 53 Fed. Reg. 51,394, 51,405 (Dec. 21, 1988) (comment in the EPA's proposed revisions to the National Contingency Plan).

informed judgment to which courts and litigants may properly resort for guidance." *Alaska Dep't of Envtl. Conservation*, 540 U.S. at 487 (internal citations and quotation marks omitted).

Most notably, the EPA issued a memo in 2000 to guide project managers during the decisionmaking process of selecting between remedial and removal actions. *See* Stephen Luftig, Director, Office of Emergency and Remedial Response, Use of Non-Time-Critical Removal Authority in Superfund Response Actions (Feb. 14, 2000), *available at* http://www.epa.gov/superfund/resources/remedy/pdf/memofeb 2000-s.pdf (last visited July 26, 2005) (hereinafter "Removal Memo"). Amplifying the National Contingency Plan's focus on the immediacy of the threat, the Removal Memo emphasizes "time sensitivity," i.e., "the need to take relatively prompt action," as a key characteristic of removal actions: "[E]ven expensive and complex response actions may be removal action candidates if they are relatively time-sensitive." Removal Memo, *supra*, at 3-4 ("For example, dredging large quantities of contaminated sediment could be conducted using removal authority where such action was the appropriate course for abating or controlling a time-sensitive threat.").[23] An EPA report published in 2000 describing the removal program reiterates that "[t]he critical element in all cases is time-prompt action is crucial." Office of Emergency and Remedial Response, EPA, EPA 540-K-00-002, The Emergency Response and Removal Program 3

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[23] The three Action Memos all categorize the action in Libby as "Time Critical." The EPA may also choose to conduct "non-time-critical" removal actions "when the lead Agency determines, based on the site evaluation, that a removal action is appropriate, and a planning period of at least six months is available before on-site activities must begin." Office of Emergency and Remedial Response, EPA, Conducting Non-Time-Critical Removal Actions Under CERCLA, EPA/540/F-94/009, at 1(Dec. 1993), available at http://www.epa.gov/superfund/resources/ remedy/pdf/540f-94009-s.pdf (last visited July 26, 2005). This subset of removal actions is subject to more stringent procedural requirements.

(2000), *available at* http://www.epa.gov/superfund/resources/emer_res.htm (last visited July 26, 2005) (hereinafter "Removal Program Report").

Courts have also stressed the immediacy of a threat in deciding whether a cleanup is a removal action. *See, e.g., City of Wichita v. Trs. of APCO Oil Corp. Liquidating Trust*, 306 F. Supp. 2d 1040, 1077-78 (D. Kan. 2003) (city's cleanup was "remedial in nature" under CERCLA where "[t]he court has heard no evidence that the contamination at the Site posed a threat to human health or the environment which required an immediate response"); *Carson Harbor Vill., Ltd. v. Unocal Corp.*, 287 F. Supp. 2d 1118, 1157 (C.D. Cal. 2003) (finding action was remedial where "[t]here is no evidence in the record that the materials posed the type of threat to human health and welfare that required immediate action"); *Hatco Corp. v. W.R. Grace & Co.-Conn.*, 849 F. Supp. 931, 963 (D.N.J. 1994) (in finding response was a removal, placing "significant weight upon the fact that the release of [the hazardous substance] was not only imminent, but actually occurring").

While stressing time sensitivity, the Removal Memo downplays the importance that some courts have placed on duration, i.e., "how long the response action will take to build or implement," because "removal actions are most often of short duration, but they certainly can be long-running responses, too, thereby undercutting the probative value of duration ... in deciding whether an action is removal rather than remedial in nature." Removal Memo, *supra*, at 3 n.2. *But see Sherwin-Williams Co. v. City of Hamtramck*, 840 F. Supp. 470, 475-76 (E.D. Mich. 1993) ("[T]he extended and protracted nature of the cleanup indicate that the City has engaged in a remedial action."). Accordingly, the action in Libby is not disqualified from being a removal action just because it took several years. *Cf. Vill. of Milford v. K-H Holding Corp.*, 390 F.3d 926, 934 (6th Cir. 2004) (explaining that the court has "never held" that the short-term nature of an action is required for finding costs recoverable as removal

costs). The length of the cleanup in Libby is especially understandable given that harsh winters truncated the construction season and that the sheer magnitude of the initial cleanup far exceeded the normal situation faced by the EPA. *Cf. Sunoco*, 337 F.3d at 1244 (concluding that action was a removal in part because it was finished in about 14 months, "a relatively short time frame in the context of a clean-up lasting more than a decade in a harsh environment" (internal quotation marks omitted)).

Likewise, the Removal Memo describes courts' reliance on the "permanence" of the response as "sometimes misleading": "As a practical matter, removal actions are often permanent solutions such as can be the case in a typical soil or drum removal." Removal Memo, supra, at 3 n.3; *cf. Geraghty & Miller*, 234 F.3d at 927 ("Even if the replacements for these wells are integral to the long-term remediation of the site, that does not mean that their initial placement cannot be categorized as removal."). This observation seems logical, as we do not want to tie the EPA's hands or compel it to adopt short term remedies for fear that any more permanent solutions automatically will be dubbed "remedial actions." Nor would it make economic or practical sense to impose a requirement that removal actions must be only temporary in nature. The Removal Memo instead uses the term "comprehensiveness" to distinguish between the use of removal authority to conduct interim or partial response actions that are focused on immediate risk reduction as compared with a final or "comprehensive" response at the site. Removal Memo, *supra*, at 3 n.3. The Libby cleanup exhibits this two-tier approach of an interim removal action that the EPA transforms into a comprehensive remedial action. *Cf. Geraghty & Miller*, 234 F.3d at 926 (noting that "removal actions generally are immediate or interim responses").

These informal interpretations combined with the descriptions in the National Contingency Plan provide a persuasive interpretation that removal actions encompass interim, partial time-sensitive responses taken to counter

serious threats to public health. As the EPA explained in the Second Action Memo, "CERCLA was designed and enacted to prevent illness and death resulting from exposure to hazardous substances, not wait for its occurrence to prove a threat." Grace attempts to add another layer of complexity to our analysis by challenging various scientific and other methodology judgments made by the EPA as part of the cleanup. Once we determine that a response action on the whole is, by nature, classified as a removal action under the law, we will not delve further to second-guess the underlying data absent a showing of specific evidence that the EPA's conclusions were not warranted. *See Balt. Gas and Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 103 (1983). ("When examining this kind of scientific determination, as opposed to simple findings of fact, a reviewing court must generally be at its most deferential."). Although Grace argues in its briefs that the EPA's data and conclusions were wrong, it did not present evidence to support its claim that the EPA's selection of a removal action was arbitrary and capricious, *see* 42 U.S.C. § 9613(j)(2), or that its characterization of the action as a removal action did not comport with the statutory definition, *see* 42 U.S.C. § 9601(23). Of course, the EPA does not have free rein to ignore accepted scientific principle or to adopt findings that are wholly at odds with the record evidence. *See Great Basin Mine Watch v. United States EPA*, 401 F.3d 1094, 1098 (9th Cir. 2005) (court will overturn a final agency action if the agency "entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise") (quoting *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). But such is not the case here. Nor can it be said that the EPA's conclusions are arbitrary and capricious. *See Envtl. Def. Ctr., Inc. v. EPA*, 344 F.3d 832, 858 n.36 (9th Cir. 2003) (an agency decision is arbitrary and capricious if there is no rational connection between the decision and the facts in the record).

The disputes between Grace and the EPA regarding testing methodology and data analysis are exceedingly complex. The administrative record includes, for instance, the EPA's 15571 response to Grace's contention that the EPA "inappropriately calculated PCMEs [phase contrast microscopy equivalents] if those findings are going to be compared to the OSHA PEL [Occupational Safety & Health Administration permissible exposure limits]." We are not scientists, nor do we intend to play armchair EPA administrator. But we are judges and it is our role to evaluate the record evidence against the standard of review. We defer to the EPA's reasoned judgment. *See Sunoco*, 337 F.3d at 1243 ("[*Skidmore*] deference seems particularly appropriate where an action reasonably can be classified as both 'removal' and 'remedial' under CERCLA's complex definitional provisions.").

The EPA's scientific basis for finding an immediate threat to the public health is thoroughly documented over thousands of pages. In addition to the detailed evaluation of the threat in the three Action Memos, the administrative record includes, for example, comprehensive reports by both the EPA's regional toxicologist and senior toxicologist explaining the imminent and substantial endangerment to public health in Libby, extensive responses by the EPA to Grace's comments on the cleanup, and lengthy findings by the Agency for Toxic Substances and Disease Registry on medical testing conducted on Libby residents. In particular, the Agency's February 22, 2001, report documents findings from its study conducted from July through November 2000 in which 1,078 people participated. Of those participants, the findings can be summarized as follows:

Type of Possible Exposure	Percentage who had a pleural abnormality[24] on the chest radiograph that could be seen by at least two certified specialists
Grace Workers and secondary contractors	37%
Other work-related contacts with vermiculite	18%
Household contacts with Grace Workers	20%
Vermiculite Insulation in home	14%
Some recreational contact with vermiculite	16%
No apparent exposure, but lives in or around Libby	14%

In comparison, the report recites the following statistics:

> Studies of differing groups within the United States believed to have no substantive work-related asbestos exposures have found the prevalence of pleural abnormalities ranging from 0.02% among blue-collar workers in North Carolina [Castellan 1985], to 0.9% among loggers in Washington and Oregon [Stilbolt

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[24] According to the report, "Asbestos exposure is associated with several changes in the pleura (lining of the lungs and internal chest wall).... They indicate past exposure to asbestos, and can often be detected in chest radiographs (CXW), also known as X-rays." The report goes on to explain that "[t]he presence of any of these pleural abnormalities on chest radiograph, associated with asbestos exposure, indicates increased risk for mesothelioma and lung cancer."

> 1991], to 1.8% among New Jersey residents [Anderson 1979], and 2.3% among patients at Veterans Administration hospitals in New Jersey [Miller JA 1996].

Further, in response to the EPA's request that the Agency for Toxic Substances and Disease Registry comment on whether the proposed removal action was appropriate to protect the public health, the Agency concluded in a May 17, 2000, report that "Asbestos contamination is present at the screening plant and export plant at levels that pose a public health hazard. The time critical removal action proposed by EPA is warranted to protect the public health."

Beyond the findings that prompted the EPA to undertake the removal action, the administrative record also documents the concrete steps taken to combat this threat, such as removing vermiculite tailings from under and around running tracks at local schools, covering and demarcating major contaminated areas at residential properties, and cleaning the interiors of infected homes.

In sum, given the sweeping language in the definition of "removal," the significant deference due to the EPA's interpretation of this language, and the scope of the interim cleanup, we hold that the EPA's cleanup in Libby falls within the bounds of a removal action. The EPA "has rationally construed the Act's text and [the] EPA's construction warrants our respect and approbation." *Alaska Dep't of Envtl. Conservation*, 540 U.S. at 485. This holding comports with CERCLA's fundamental goal of protecting the public health. *See, e.g., Hanford Downwinders Coalition*, 71 F.3d at 1481 ("[T]his circuit has joined others in recognizing that protection of the public health was one of the remedial goals of CERCLA."). Considering the chaotic history behind CERCLA's passage, we are particularly sensitive not to adopt a reading that would undermine its remedial purpose. *See Clark v. Uebersee Finanz-Korporation*, 332 U.S. 480, 488 (1947) (advising that courts should not adopt an interpretation of statutory language that would "run counter

to the policy of the Act and be disruptive of its purpose ... [when] dealing with hasty legislation which Congress did not stop to perfect as an integrated whole").

In so holding, we recognize that Congress created a bifurcated scheme of removal and remedial actions and, accordingly, there must be outer limits to removal actions. But the EPA did not exceed these limits in this case. Nor need we delineate the outer parameters. We simply conclude that the EPA's characterization of the cleanup in Libby as a removal action is amply supported by the administrative record and easily withstands scrutiny under the modified level of interpretive deference afforded by *Mead* and *Alaska Department of Environmental Conservation*. Although deference to the EPA's interpretation is significant, it is not blind. Courts must, as a matter of law, ultimately determine that the EPA's characterization of a given response action accords with CERCLA, as we so determine here.

Crucial to our determination is the documented evidence that, absent immediate attention, the airborne toxic particles would continue to pose a substantial threat to public health. To combat this widespread, looming threat, the EPA had no choice but to undertake an aggressive removal action of an expansive scope. The removal activities easily fall within the statutory definition of removal. Notably, the definitions for removal and remedial actions consciously include some overlap. Because of the nature of the contaminant, some of the measures taken by the EPA as part of the removal action might also effect a permanent solution for a particular location (e.g., removing exposed piles of vermiculite). But by no means did the removal action fully eliminate the public health threat or amount to a full-blown remediation. According to the EPA's CERCLIS database, the EPA is continuing work to ensure that potential or actual human exposures are under control. *See* http://cfpub1.epa.gov/supercpad/cursites/csitinfo.cfm?id=0801744 (last visited July 26, 2005). Although Libby's problems appear far from solved, the EPA is making progress. As

envisioned by CERCLA, the EPA plans to effect a comprehensive resolution to the asbestos contamination through the pending remedial action.

II. EXEMPTIONS FROM THE $2 MILLION, 12-MONTH STATUTORY CAP APPLICABLE TO REMOVAL ACTIONS

Having determined that the action is properly characterized as a removal action, the inquiry turns to whether the EPA can recover costs in excess of the $2 million, 12-month statutory cap on removal actions. *See* 40 C.F.R. § 300.415(b)(5). The district court found persuasive the EPA's explanations in the Action Memos of the immediate risk to public health. *Grace I*, 280 F. Supp. 2d at 1144. We agree and hold that, considering the widespread and pervasive asbestos contamination and the potential for further migration of asbestos fibers as documented in the Action Memos, the EPA's decision to exceed the statutory cap was not arbitrary and capricious.

We begin with the language of 42 U.S.C. § 9604(c)(1):

> Unless (A) [the EPA] finds that (i) continued response actions are immediately required to prevent, limit, or mitigate an emergency, (ii) there is an immediate risk to public health or welfare or the environment, and (iii) such assistance will not otherwise be provided on a timely basis, ... obligations from the Fund ... shall not continue after $2,000,000 has been obligated for response actions or 12 months has elapsed from the date of initial response to a release or threatened release of hazardous substances.

See also 40 C.F.R. § 300.415(b)(5) (limiting actions to $2 million and 12 months "unless the lead agency determines that" one of the exemptions applies). Despite Grace's assertion that the decision to exceed the cap is not subject to arbitrary and capricious review, the fact that the statute allows the EPA to invoke the exemptions when it "finds" certain conditions counsels otherwise. *See* 5 U.S.C.

§ 706(2) (courts should set aside agency conclusions and findings where "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law"). The EPA's determinations in this case that there was an emergency, that the risk to public health was immediate, and that the assistance would not otherwise be forthcoming are inherently fact-based.

In the First Action Memo, the EPA determined that the removal action met the three statutory elements required to exceed the cap. *See* § 9604(c)(1)(A). Namely, (1) the asbestos in the environment posed an immediate threat to the local population; (2) a cleanup beyond the cap was required to prevent, limit, or mitigate an emergency[25] because of the size of the cleanup and the short construction season; and (3) assistance from other government agencies was not anticipated on a timely basis. The Second Action Memo reiterated this reliance on the "emergency exemption," explaining that "[a]t all the locations discussed in this Action Memorandum if Removal Actions are not initiated or continued then people will be exposed to unsafe levels of amphibole asbestos." In light of the EPA's documentation of

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[25] The term "emergency" is not defined in CERLCA or the National Contingency Plan, and the EPA has interpreted it to include a range of time-sensitive threats:

> Not all actions begin under what are commonly thought of as "emergency" conditions. Though events such as tire fires, train derailments, and chemical explosions require immediate action, other less dramatic threats to public health are addressed under EPA's Emergency Response and Removal Program. Such threats include the discovery of leaking drums or tanks at an abandoned factory or complaints of tainted drinking water near a landfill. Regardless of the circumstances, quick and efficient cleanup of hazardous material eliminates risks to people and the environment and minimizes the stigma contamination can bring to properties and communities.

Removal Program Report, *supra*, at 3.

complete exposure pathways and the resulting continuing threat to public health, we hold that the EPA "articulate[d] a rational connection between the facts found and the conclusions made." *Envtl. Def. Ctr.*, 344 F.3d at 858 n.36.

Turning to the Third Action Memo, the EPA continued its reliance on the emergency exemption, once again citing the statutory factors and explaining that a continued removal action was necessary to prevent exposure to unsafe levels of asbestos. In addition, the EPA relied on the "consistency exemption," which allows for a continued removal action over the cap when it is "otherwise appropriate and consistent with the remedial action to be taken." 42 U.S.C. § 9604(c)(1)(C); *see also* 40 C.F.R. § 300.415(b)(5)(ii) (corresponding provision). At the time the Third Action Memo was released, the EPA had proposed Libby to the National Priorities List but it had not yet been listed. Thus, as envisioned in the Action Memos, the removal action in Libby was not an exhaustive cleanup effort. Rather, the EPA has segued into the remedial phase and, in the interim, found that "[c]ontinued response actions are appropriate and consistent with the remedial actions to be taken."

On a practical level, the need to exceed the cap is not surprising given the urgency, magnitude, and long-standing nature of the problem. First, the tremendous scope of the removal in Libby made the $2 million ceiling unworkable. An entire town needed to be cleaned up, not just a mobile home park, *Carson Harbor Vill.*, 270 F.3d at 867, or a "five-acre parcel of land," *Chapman*, 146 F.3d at 1168. In contrast to these localized threats, the EPA explained in its response to comments received from Grace in December 2001 that it still had more than 2000 properties to sample around Libby.

The 12-month limit was also impractical given both the scale of the effort and the meteorological reality of the harsh conditions, which result in a short construction season and thus necessitate several years to complete cleanup activities that might be completed considerably faster in a more temperate climate. The severe winters and hot summers are

further problematic in that they exacerbate the spread of asbestos particles through wind and erosion. Cleansing the site of these widespread particles requires such labor-intensive acts as bulk removal of contaminated materials followed by thorough cleaning and vacuuming of the houses.

Given these daunting realities and the EPA's careful documentation of its reasons for invoking the emergency and consistency exemptions, we hold that the EPA's decision to exceed the statutory cap was based on the relevant factors, there has been no clear error of judgment, and the decision was not arbitrary and capricious. *See Marsh v. Or. Nat'l Res. Council*, 490 U.S. 360, 378 (1989); *Envtl. Def. Ctr.*, 344 F.3d at 858 n.36. Therefore, the EPA is entitled to recover the full costs of its removal action in Libby as found by the district court.

III. INDIRECT COSTS CALCULATION

Finally, Grace complains that the methodology used to calculate indirect costs of $11,322,226 overstated the EPA's costs attributable to the Libby response action. *See Grace II*, 280 F. Supp. 2d at 1173, 1187 (calculating indirect costs). Grace disputes the use of total site-specific costs as the basis for calculating indirect costs, arguing that because the EPA delegated substantial authority to the U.S. Department of Transportation, the EPA's overhead was substantially lower than it would have been had the EPA administered the entire project directly.

After review of the district court's extensive findings on the indirect costs methodology and its application to this particular case, *see id.* at 1167-73, we conclude that the district court did not err in its award of indirect costs. *See W. Props. Serv. Corp. v. Shell Oil Co.*, 358 F.3d 678, 685 (9th Cir. 2004) ("The district court's findings of fact can be reversed only if clearly erroneous, and not merely because we might have found otherwise on the same evidence.").

CERCLA authorizes the EPA to recover "all costs of removal or remedial action ... [that are] not inconsistent with the national contingency plan." 42 U.S.C.

§ 9607(a)(4)(A). "All costs" include indirect costs such as administrative and other overhead costs incurred in managing the greater Superfund program. *See, e.g., United States v. Dico*, 266 F.3d 864, 878 (8th Cir. 2001) (concluding that "oversight and indirect costs are recoverable in remedial actions under CERCLA"). In order to capture these costs from disparate CERCLA response actions, "Allocating indirect costs that cannot be directly accounted for as costs of a specific project is a well-established accounting practice." *Kennecott Utah Copper Corp. v. United States DOI*, 88 F.3d 1191, 1224 (D.C. Cir. 1996).

Grace maintains that the EPA should have used the "labor hour" approach that the EPA abandoned in 2000. Under the labor hour method, the indirect costs attributable to each site were calculated based on the number of hours that EPA personnel charged to a site during a fiscal year. *Cf. United States v. R.W. Meyer, Inc.*, 889 F.2d 1497, 1503-04 (6th Cir. 1989) (calculating indirect costs using labor hours method). In contrast, the new "full cost" methodology allocates indirect costs based on the total site-specific expenditures incurred for a particular site.

The EPA explains that the labor hours method was rejected because it did not identify the full costs of Superfund site cleanups, and the revised methodology is a better process for estimating and allocating the total Superfund overhead costs. The revised methodology is also supported by reports from the General Accounting Office and the accounting firm KPMG, which found that the full cost approach complies with the federal government's costs accounting standards. *See Grace II*, 280 F. Supp. 2d at 1171-72; *see also* Guidance on Exercising CERCLA Enforcement Discretion in Anticipation of Full Cost Accounting Consistent With the "Statement of Federal Financial Accounting Standards No. 4," 65 Fed. Reg. 35, 339 (EPA June 2, 2000).

In awarding the EPA $11.32 million in indirect costs, the district court found that the "EPA's revised methodology is

an appropriate accounting measure of its indirect costs charged to Superfund sites, including the Libby Asbestos Site." *Grace II*, 280 F. Supp. 2d at 1169. The district court reached this conclusion after a three-day trial and detailed findings. Grace characterizes this conclusion as a legal error meriting de novo review. We disagree. The district court's approach comports with the statute; the court's findings on the methodology and its application to this case are supported by the record, *id.* at 1167-73, and we will not overturn them except for clear error. *See W. Props. Serv. Corp.*, 358 F.3d at 685. Besides, we do not think it is in anyone's interest to have appellate courts step into the accountants' shoes and determine the accuracy of accounting calculations de novo. Grace's arguments do not rise to the level of demonstrating that the district court's findings were clearly erroneous. We are particularly hesitant to second-guess the district court's judgment on this issue where the court specifically found that Grace's accounting expert was "not credible." *Grace II*, 280 F. Supp. 2d at 1169, 1171 ("[Grace's] accounting expert ... does not know what methodology the EPA should use to recover its indirect costs.").

Conclusion

We AFFIRM the district court's order granting the EPA summary judgment on the liability issue. We also AFFIRM the district court's order awarding the EPA $54,527,081.11 in costs and a declaratory judgment on the liability of Grace for future costs.

AFFIRMED.

BEA, Circuit Judge, concurring:

I concur in the result that the majority reaches. The EPA's activities in Libby, Montana, when taken as a whole, are properly classified as a removal action in response to the immediate threat posed by the large quantities of friable asbestos found in Libby. *See, e.g.*, Majority Opinion at

p.15576 *ante* (noting that EPA toxicologist reported that Libby residents were being exposed to airborne asbestos in excess of OSHA's permissible occupational exposure level). Accordingly, I would uphold the EPA's classification of its Libby response action under Mead as opposed to *Chevron* deference. *See United States v. Mead Corp.*, 533 U.S. 218, 234-35 (2001).

Under CERCLA, the EPA can recover "all costs of removal or remedial action ... not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(A). The regulations set forth the national contingency plan standards governing the EPA's selection of a response action. *See* 40 C.F.R. § 300.415. In conducting judicial review, this court "shall uphold the President's decision in selecting the response action unless the objecting party can demonstrate, on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with the law." 42 U.S.C. § 9613(j)(2).

The national contingency plan regulations governing removal action also provide that "[i]n determining the appropriate extent of action to be taken in response to a given release, the lead agency shall first review the removal site evaluation, any information produced through a remedial site evaluation ... and the current site conditions, to determine if removal action is appropriate." 40 C.F.R. § 300.415(a)(1). Thus, the regulations govern not only the EPA's selection of a response action, but also its determination of the extent of a response action. *Id.* at 300.415(a)(1). I would also review this latter determination under the arbitrary and capricious standard stated in 42 U.S.C. § 9613(j)(2).

For example, the EPA's decision to excavate the vermiculite tailings buried beneath the Libby Middle School track warrants scrutiny. According to a letter from the superintendent of Libby's schools, the EPA had concluded that "[s]ince the asbestos ... detected is all at depth and, in some cases, covered by the track," "there is not currently a

risk of exposure." Were this the only finding in the record, I would be hard pressed to see any rational connection between this finding and the decision to include the Middle School track in the EPA's removal action.

However, the record contains additional findings that supply a rational reason for removing the track. Specifically, the EPA found that "there was some amount of the [asbestos-containing] material readily exposed in high traffic areas" and a risk of exposure to workers performing routine maintenance on the track. Soil samples from the Middle School track also show a 2-8% asbestos concentration at a depth of between 2 and 24 inches in the soil surrounding the track. ER 388. Thus, after a careful review of the record, I would conclude the EPA has made a reasoned decision in including the Libby Middle School in its removal action and would allow recovery of costs incurred there.

Thus, while I concur in the result of the majority's decision, I write separately to emphasize that this court should stand ready to review separately the EPA's actions at different locations at a removal site under the "arbitrary and capricious" standard stated in 42 U.S.C. § 9613(j)(2).

UNITED STATES DISTRICT COURT
FOR THE DISTRICT MONTANA
MISSOULA DIVISION

UNITED STATES of America,	)	CV 01-72-M-DWM
	)	
Plaintiff,	)	
	)	
vs.	)	ORDER
	)	
W.R. GRACE & CO.-CONN. and Kootenai Development Corporation,	)	
	)	
Defendants.	)	
	)	

I. FACTUAL BACKGROUND

In the late 1800s, gold miners discovered a significant body of vermiculite ore in an area located in the mountains seven miles northeast of Libby, Montana. One of the minerals found in the vermiculite deposits is tremolite, a form of asbestos in the amphibole family. Around 1939, the Zonolite Company (originally known as Universal Zonolite Insulation Company) was formed to mine and process vermiculite from the Libby ore deposit into insulating materials and other products. Under an Agreement and Plan of Reorganization dated January 17, 1963, between W.R. Grace & Co., a Connecticut corporation, and Zonolite Company ("Zonolite Agreement"), W.R. Grace & Co. acquired "substantially all of the properties and assets of Zonolite" and agreed to

> assume and agree in due course to pay and discharge all debts and liabilities of Zonolite existing on the Closing, whether absolute, contingent or otherwise, and whether or not set forth on, reserved against or reflected in

> Zonolite's Balance Sheet as of December 31, 1962 ....

In 1988, W.R. Grace & Co. changed its name to W.R. Grace & Co.-Conn. as part of a complex corporate reorganization, and became a subsidiary of a newly-created New York corporation named W.R. Grace & Co. ("Grace").[1] Grace continued commercial mining and processing operations around Libby until about 1990. From 1963 to 1990, asbestos fibers were emitted from the mill at the vermiculite mine. At various times between 1963 and 1990, Grace gave away vermiculite concentrate and/or expanded vermiculite to residents of Libby.

In the mid-1990s, Grace sold several of the properties associated with its former vermiculite operations around Libby. In separate transactions in 1994, Defendant Kootenai Development Corporation ("KDC") purchased approximately 3,600 acres of mountainous land that includes the former vermiculite mine (the "Mine Site") and an approximately 20-acre parcel known as the "Kootenai Flyway" located between Highway 37 and the Kootenai River, part of a former vermiculite processing facility known as the "Screening Plant." In 2000, KDC acquired an approximately 42-acre parcel, known as the "Kootenai Bluffs," situated on the bank of the Kootenai River, also formerly part of the Screening Plant. KDC owns the Mine Site, Kootenai Bluffs and Kootenai Flyway. A portion of the former Screening Plant is owned by Mel and Lerah Parker who, beginning around 1994, used the property for commercial operations and their personal residence.[2]

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[1] In this Order, "Grace" refers to W.R. Grace & Co., a Connecticut corporation, both before and after it changed its name to W.R. Grace & Co.-Conn. Defendant W.R. Grace. & Co. is a Delaware corporation that was incorporated in 1998 and is the sole shareholder of Grace-Conn. The parties have stipulated to the dismissal of the Delaware corporation.

[2] The entire area is referred to as the "Libby Asbestos Site."

In November 1999, the EPA began a series of investigations around Libby. In spring 2000, the EPA determined that a removal action was necessary to address the releases or threatened releases of asbestos at the Screening Plant and another former vermiculite processing facility in Libby know as the "Export Plant." On May 23, 2000, the EPA issued its original Action Memorandum in which it approved a removal action for the Export Plant and the Screening Plant. The original Action Memorandum also approved an exemption from the $2 million/12-month statutory limits on removal actions.

On July 20, 2001, the EPA issued an Action Memorandum Amendment in which it modified the scope of the removal action to include several additional properties and approved an increase in the cost ceiling above $6 million to a total of $20,976,000. Among the properties added were the Brownlee and Seifkie residences, Plummer Elementary School, Libby Middle School, Libby High School, Rainy Creek Road, and similarly situated properties.

On May 2, 2002, the EPA issued a second Action Memorandum Amendment which again expanded the scope of the removal action and approved a cost ceiling increase to $55,635,000. This amendment resulted from "newly identified exposure pathways" and approved the removal of vermiculite insulation from businesses and residences. This approval was based in part on "the highly unusual facts indicating that homes in Libby contain insulation that consists of the asbestos-containing vermiculite mined at Libby that was not inspected, packaged, labeled, warranted, regulated or sold as a commercial product."

The United States filed this action seeking costs it incurred at the Libby Asbestos Site through December 31, 2001, in the amount of $55,166,026.56; prejudgment interest that has accrued since May 23, 2000; and a declaratory judgment on the liability of Grace and KDC for response costs or damages that will be binding in any subsequent

action or actions to recover further response costs or damages.[3]

In general, Defendants maintain that the EPA's response actions and the costs incurred are inconsistent with the National Contingency Plan ("NCP"), 40 C.F.R. Part 300; the

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[3] Specifically, as set forth in the Final Pretrial Order, the United States seeks a declaratory judgment that Grace is liable for response costs and costs of public health assessments or health effects studies incurred after December 31, 2001(1) at the Mine, Screening Plant, Export Plant, Flyway, Bluffs, Libby Middle School, the Plummer Elementary School, and the Calhoun, Burriss, Johnson, Sanderson (123 Hamann Ave.), Temple, Struck, Rice, Fuhlendorf, Spencer, Westfall, Hoff, Beauliea, Burshia, Schenck, Sanderson (4241 Hwy 37 N), Skramstead, Cady, Cote, Hebenstreit, McCully, Hilliard, Parseau, Jeresek, Dennis, Long, Belangie, Wilkes, Rodgers, Parker (1421 Main St.), Drury, Graham, Bowker, Phillips, Jacobson, Visger, Brown (653 Flower Creek Road), Brown (346 Granite Ave), Downey, Geer, Jordan, Mohr, Nixon, Ray, Sanderson (113 W. Oak St.), Wilkes, Powers (2293 Kootenai River Rd.), Powers (2297 Kootenai River Road), Kootenai Angler, Epperson and subsequently identified properties within the Libby Asbestos Site at which detectable amounts of amphibole asbestos exist in the yards, gardens or driveways of residential or commercial properties in Libby; (2) at properties within the Libby Asbestos Site that have detectable amounts of amphibole asbestos in household dust, including but not limited to the Spencer Law Firm, Kootenai Valley Christian School, Achievements Shop, and the Fryberger, Loomis, Peterson, Alford, McBride, Smith, Spencer, Norres and Stubbs properties; (3) and at other properties within the Libby Asbestos Site at which EPA undertakes or has undertaken sampling activities or has otherwise investigated the possible presence of amphibole asbestos (with the exception of the Foote, Walker, and 1022 California Avenue properties). The requested declaratory judgment relates only to Grace's liability with respect to the above-identified properties, not the amount of costs incurred or the NCP consistency of any future response action decisions. The United States also seeks a declaratory judgment that KDC is liable for response costs incurred after December 31, 2001 at the Flyway, Bluffs, and Mine.

EPA has not accurately accounted for its costs as required by 40 C.F.R. § 300.160; the EPA's response actions included responses to a release or threatened release of "a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found" or "from products which are a part of the structure of, and result in exposure within, residential buildings or business or community structures" as proscribed by Section 104(a)(3) of CERCLA, 42 U.S.C. § 9604(a)(3); and the releases or threatened releases of asbestos in Libby, Montana were caused by an act of God, act of war, or act or omission of a third party other than an employee or agent of the Defendants, or than one whose act or omission occurs in connection with a contractual relationship, existing directly or indirectly, with the Defendants.

The parties have stipulated that: (1) asbestos is a hazardous substance as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) Libby vermiculite ore deposits contain measurable quantities of asbestos; (3) there has been a release or threatened release of asbestos at the Libby Mine Site, Screening Plant (including the Flyway and Bluffs), and Export Plant; and (4) these sites are "facilities" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

II. ANALYSIS

A. APPLICABLE LAW

CERCLA provides that

> [w]henever (A) any hazardous substance is released or there is a substantial threat of such a release into the environment, or (B) there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare, the president is authorized to act, consistent with the national contingency plan, to remove or arrange for the removal of, and provide for

> remedial action relating to such hazardous substance, pollutant, or contaminant at any time (including its removal from any contaminated natural resource), or take any other response measure consistent with the national contingency plan which the President deems necessary to protect the public health or welfare or the environment.

42 U.S.C. § 9604(a)(1).

The ability to respond to a release or threatened release is limited when the response is to that

> (A) of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a location where it is naturally found;
>
> (B) from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures; or
>
> (C) into public or private drinking water supplies due to deterioration of the system through ordinary use.

42 U.S.C. § 9604(a)(3). However, even in the situations listed in § 9604(a)(3), a response is permitted if, in the agency's discretion, it determines that the release or threatened release "constitutes a public health or environmental emergency and no other person with the authority and capability to respond to the emergency will do so in a timely manner." 42 U.S.C. § 9604(a)(4).

As set forth in CERCLA, and more defined in the regulations promulgated thereunder, two different response actions to a release or threatened release of a hazardous substance are permitted: a removal[4] action or a remedial[5]

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[4] "Remove" or "removal" are defined as "the cleanup or removal of released hazardous substances from the environment, such

action. If the agency determines that a release or threatened release is a threat to the public health or welfare, the agency "may take any appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or the threat of release." 40 C.F.R. § 300.415(b)(1). To proceed with a removal action, the agency must first consider the following factors (the "mandatory factors"):

> (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
>
> (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
>
> (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
>
> (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

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actions as may be necessary [sic] taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release." 42 U.S.C. § 9601(23).

[5] "Remedy" or "remedial action" are defined as "those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment." 42 U.S.C. § 9601(24).

> (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
>
> (vi) Threat of fire or explosion;
>
> (vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and
>
> (viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

40 C.F.R. § 300.415(b)(2). If it is determined that removal is appropriate, the action must begin as soon as possible. 40 C.F.R. § 300.415(b)(3). However, if a removal action is selected and there are six months between the time the decision is made and the time on-site activities are to begin, the agency must conduct an engineering evaluation/cost analysis[6] and develop sampling and analysis plans, if environmental samples are to be used. 40 C.F.R. § 300.415(b)(4).

B. MOTIONS REGARDING GRACE

The United States has filed three separate motions for summary judgment regarding its claims against Grace. The motions are parsed by claims and defenses, however, there are three over-arching issues that transcend the different motions. The three issues that must be decided are:

> (1) Was the EPA's decision to conduct and continue its asbestos removal action at the Libby Asbestos Site arbitrary and capricious?
>
> (2) Is Grace liable under CERCLA for cleanup at the Libby Asbestos Site?
>
> (3) Is the EPA entitled to the $55,166,026.56 in costs it claims have incurred as part of the removal action?

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[6] An EE/CA "is an analysis of removal alternatives for a site."

1. REMOVAL ACTION CONSISTENT WITH NCP

The EPA contends that its decision to conduct a removal action complies with CERCLA and the NCP. Grace counters that the EPA should have conducted a remedial action and that its decision to undertake a removal action was designed to avoid the safeguards necessary to proceed with a remedial action. Additionally, Grace contends that the EPA has violated the NCP because the response action has exceeded the $2 million/12-month statutory limits without justification.

The EPA's first Action Memorandum summarizes the factors it considered in approving a time-critical removal action and exemption from the $2 million/12- month statutory limits. In its initial investigation, the EPA found over 200 reported cases of asbestos-related diseases, including 33 that were non-occupational and 6 in which there were no family ties to the vermiculite mine. The EPA also found a significant amount of asbestos-contaminated vermiculite at the Libby Asbestos Site, including in houses, areas where children played, and gardens. Historical and recent samples by Grace and the EPA showed excessive concentrations of airborne asbestos were common.

Based in part on these findings, the EPA concluded that the conditions around Libby constituted an imminent and substantial threat to the public health and welfare. In recommending and approving a removal action, the Action Memorandum contained specific findings that there was actual or potential asbestos exposure to human populations; numerous piles of bulk asbestos-contaminated vermiculite existed at the Libby Asbestos Site; contaminated soils at the Site were likely to be spread by wind, rain, snow-melt, and removal by humans; and that no other viable federal or state response actions were likely. These findings correspond to the mandatory factors set forth in 40 C.F.R. § 300.415(b)(2)(i), (iii), (iv), (v), and (vii) and are supported by the record that was before the EPA.

While the Action Memorandum does not contain specific findings on the factors in subparts (b)(2)(ii), (vi) or (viii), the record indicates they were considered. For example, (b)(1)(ii) requires consideration of "[a]ctual or potential contamination of drinking water supplies or sensitive ecosystems." The Action Memorandum indicates that it was too early to determine if asbestos contamination posed a threat to the environment, but evaluation would continue;[7] likewise, it appears the asbestos-contaminated vermiculite posed no risk of fire or explosion. Though subpart (b)(2)(viii) was not specifically considered, it is a catch-all provision that allows consideration of any other factors not already considered.

Grace's main argument is that the EPA has acted arbitrarily and capriciously because it is performing a remedial action under the guise of a removal action, allowing it to evade procedural safeguards. As noted above, however, the record indicates that the EPA considered the mandatory factors set forth in 40 C.F.R. § 300.415(b)(2). The NCP allows the EPA to proceed with a removal action after considering these factors. That the response could also be classified as a remedial action is not relevant. Consideration of the mandatory factors is what is required to conduct a removal action; because the EPA did so, its decision to conduct a removal action rather than a remedial action is consistent with the NCP and cannot be second-guessed by this Court. *See e.g. United States v. Chapman,* 146 F.3d 1166, 1172-73 (9th Cir. 1998).

Likewise, the EPA's decision to undertake a time-critical removal was not arbitrary and capricious. The NCP requires that the EPA perform an engineering evaluation/cost analysis if a planning period of six months exists before a removal action is to begin, 40 C.F.R. § 300.415(b)(4)(i). Here, the EPA issued its Action Memorandum on May 23, 2000 determining that a removal

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[7] The Action Memorandum also indicated that a response action would mitigate any threat to the environment.

action was appropriate and that it should be deemed time-critical due to the immediacy of the potential harm to people in Libby.

In reaching this decision, the EPA determined that asbestos contamination posed an immediate threat to people in Libby and that the short construction season required immediate action to avoid substantial delay. The EPA began its removal action by July 2000, within six months of its decision. While Grace disagrees with the EPA's decision to pursue a time-critical removal, it is a decision that is within the EPA's discretion. Because the removal action began within six months, the NCP did not require the EPA to perform an engineering evaluation/cost assessment.

Grace also argues that the removal action is not legal because the EPA has exceeded the $2 million/12-month statutory limits for removal actions. Grace is correct that CERCLA and the NCP establishes limits on removal actions, however, those limits are not inviolate. Rather, the limits apply unless the EPA determines that

> (i) [t]here is an immediate risk to public health or welfare of the United States or the environment; continued response actions are immediately required to prevent, limit, or mitigate an emergency; and such assistance will not otherwise be provided on a timely basis; or
>
> (ii) [c]ontinued response action is otherwise appropriate and consistent with the remedial action to be taken.

40 C.F.R. § 300.415(b)(5).

The EPA documented its reasons for exemption from the statutory limits in the original Action Memorandum and each subsequent Action Memorandum Amendment. Specifically, the EPA determined that the public's continued exposure to asbestos in the environment around Libby constituted an immediate risk to the public health; without continued immediate response, asbestos would continue to

expose the public to harm; the statutory time and monetary limits were insufficient for an appropriate response due to the size and complexity of the removal; and no other entity had the resources to take similar actions. The EPA's consideration of these factors satisfies the requirements in the NCP and allows the EPA to exceed the statutory limits on removal actions.

Finally, Grace argues the EPA violated its own policies in approving the removal action, declaring it time-critical, and exceeding the statutory cap. Regardless of whether this is true, it is not relevant. CERCLA and the NCP, not the internal policies of the EPA, govern the decisions surrounding removal actions. The NCP does not incorporate the EPA's internal policies; accordingly, the EPA's alleged failure to comply with its own policies does not violate the NCP, nor can it be a basis for finding the EPA's actions arbitrary and capricious. *United States v. Findett Corp.*, 220 F.3d 842, 849-50 (8th Cir. 2000).

The EPA has complied with the NCP's requirements to approve a time-critical removal action and to exceed the $2 million/12-month statutory limits. Because the EPA considered the factors set forth in the NCP, the Court cannot second-guess its conclusions. Therefore, the EPA's actions are not inconsistent with the NCP, nor are they arbitrary and capricious or otherwise not in accordance with law.

2. GRACE'S LIABILITY UNDER CERCLA

To establish a prima facie case to recover response costs under CERCLA, the EPA must prove: (1) the site is a facility; (2) a release or threatened release of a hazardous substance occurred; (3) the government incurred costs in responding to the release or threatened release; and (4) the defendant is the liable party. 42 U.S.C. § 9607(a); *Chapman*, 146 F.3d 1166, 1169 (9th Cir. 1998). Once the United States establishes a prima facie case, the burden shifts to the defendant to prove that the response action was inconsistent with the national contingency plan ("NCP"). *Id.* In a recovery of response costs action, consistency with the NCP

is presumed. *Id.* at 1170; *United States v. Chromalloy American Corp.*, 158 F.3d 345, 352 (5th Cir. 1998) ("as long as the government's choice of response is consistent with the NCP, costs are presumed to be recoverable"). To rebut the presumption, the defendant must show that the response action itself, rather than individual costs, was inconsistent with the NCP. *Chapman*, 146 F.3d at 1170-71; *United States v. Hardage*, 982 F.2d 1436, 1443 (10th Cir. 1992).

The parties agree that Grace is liable under CERCLA for cleanup of the following properties (the "undisputed properties")[8]:

The Mine Site; the former Screening Plant; the Flyway; the Bluffs; the Export Plant; the Libby High School; the Libby Middle School; Plummer Elementary School; Champion Hall Road; Rainy Creek Road; and the residential properties of Belangie, Brown (635 Flower Creek), Brownlee, Burshia, Cote, Dennis, Downey, Drury, Geer, Graham, Hebenstreit, Hilliard, Hoff, Jacabson, Jeresek, Jordan, Long, Mohr, Norres, Parker, Parseau, Peterson, Phillips, Powers (2297 Kootenai River Rd.), Rice, Rodgers, Sanderson (123 Hamann), Sanderson (4241 Hwy 37), Schenck, Skramstad, Smith, Spence (500 Jay Effar), Spence (229 Pinewood), Struck, Temple, McCully, Westfall, Wilkes (461 Parmenter), Wilkes (600 Ave. B).

The parties dispute Grace is liable for cleanup of the following properties (the "disputed properties"):

Calhoun, Burriss, Johnson, Fuhlendorf, Beauliea, Cady, Hebenstreit, Bowker, Visger, Brown (346 Granite Ave), Nixon, Ray, Sanderson (113 W. Oak St.), Powers (2293 Kootenai River Rd.), Kootenai Angler, Epperson, Spencer Law Firm, Kootenai Valley Christian School, Achievements Shop, Fryberger, Loomis, Alford, McBride, and Norres.

For the disputed properties, there are disputed issues of material fact as to whether Grace is liable for cleanup. It is

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[8] In the Final Pretrial Order, the parties stipulated that, as to the undisputed properties, the elements in § 9607(a) apply.

apparent that asbestos has been found at these properties, either in the soil or in the dust. While the amount of asbestos at some of the properties is small, there is no minimum requirement for a release or threat of release to have occurred. The properties qualify as facilities because they are places where "a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located." 42 U.S.C. § 9601(9). Additionally, the EPA has incurred costs in responding to the releases or threatened releases at these properties. The issue, then, is whether Grace "arranged for disposal" of a hazardous substance at the disputed properties making it a liable party under CERCLA.

Grace has agreed that it arranged for disposal of a hazardous substance at the Schools, the undisputed residential properties, Rainy Creek Road, and Champion Haul Road. This is based in part on the fact that Grace allowed people in Libby to take asbestos-contaminated vermiculite to use in their homes and gardens. While it is likely that the same occurred at the disputed properties, this is not clear based on the undisputed facts. Therefore, summary judgment on Grace's CERCLA liability for the disputed properties is not appropriate.

3. RESPONSE COSTS

Because the NCP regulates choice of response actions, costs alone cannot be inconsistent with the NCP. *Hardage*, 982 F.2d at 1443. If the EPA establishes that Grace is liable under CERCLA, the sole defense to being responsible for response costs is to establish that the response action was inconsistent with the NCP. *Id.* Because the Court has determined that the removal action is consistent with the NCP, Grace is liable for all documented costs incurred by the EPA in responding to the undisputed properties. If the United States establishes that Grace is also liable for cleanup at the disputed properties, Grace will be responsible for all costs incurred by the EPA in the removal action. Any

claim that the costs are excessive or unreasonable is not a defense. *Id.*

At this stage, the EPA is seeking $55,166,026.56 for costs incurred in responding to the Libby Asbestos Site. Grace agrees the EPA has provided adequate documentation for $30,502,121.74 of those costs. However, it is not clear what costs were incurred at each property. For the EPA to recover the full amount, it must prove that Grace is liable under CERCLA for cleanup of all of the properties. Because the parties have not prorated the costs by site, it is difficult, if not impossible, to determine what costs were incurred at the undisputed sites. Therefore, summary judgment on response costs is improper at this time.[9]

C. MOTION REGARDING KDC

1. CERCLA LIABILITY

The United States moves for summary judgment on the liability of KDC for response costs incurred at properties owned by KDC (the "KDC properties") within the Libby Asbestos Site.[10] The United States also seeks summary judgment on KDC's third-party and act of God defenses.

The parties have stipulated that a release or threatened release of a hazardous substance occurred at the KDC properties; that the properties are facilities under 42 U.S.C. § 9601(9); and that KDC is an owner of the properties. KDC also agrees that the EPA incurred costs in responding to the release or threat of release of asbestos at the KDC properties. However, KDC argues that the United States

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[9] If the parties can stipulate to the amount of the undisputed $30,502,121.74 in costs that were incurred at the undisputed properties, summary judgment will be granted for that amount. For those costs that remain disputed, the only issues for trial are (1) whether Grace is liable under CERCLA for response actions at the disputed properties, and (2) whether there is adequate documentation for the costs incurred.

[10] KDC owned the Mine, the Bluffs, the Flyway, and portions of the Screening Plant.

has not proven an appropriate nexus between the costs incurred and KDC's relation to those costs. KDC also argues that the United States has not proven that the response costs were necessary, an element which KDC argues is factual in nature due to the number of parties who have owned the property in question.

KDC relies on several cases, including *Carson Harbor Village, Ltd. v. Unocal Corp.*, to support its contention that the United States must establish a "necessary nexus" to recover response costs. However, *Carson Harbor* does not support this proposition. At issue in *Carson Harbor* was the cleanup of tar-like and slag materials from contaminated wetlands. Unocal had previously used property around the wetlands in its petroleum production operations, though at the time of the cleanup, the property was used by Carson Harbor as a mobile home park. 270 F.3d 863, 868 (9th Cir. 2001).

Carson Harbor sued Unocal to recover response costs it incurred in cleaning up the property. The court there determined that "genuine issues of material fact precluded summary judgment on the issue of whether the response costs at issue were 'necessary.'" *Id.* at 888. However, the dispute in *Carson Harbor* was not whether costs were necessary, but whether any response was required at all.

Here, unlike in *Carson Harbor*, neither the United States nor KDC dispute whether the EPA has or should have responded. Rather, KDC maintains the EPA's response costs were not necessary. However, causation is not an element under CERCLA liability and any argument regarding necessity is irrelevant to liability. The United States need only establish facts showing the EPA incurred response costs. The United States need not prove that response costs the EPA incurred were caused by KDC. The United States has incurred response costs in removing 80,000 cubic yards of contaminated soil and will continue to incur costs as the cleanup continues. Thus, the United States has established that response costs were incurred,

thereby establishing a prima facie case for liability under CERCLA.

2. THIRD-PARTY DEFENSE

As one of its affirmative defenses, KDC asserted that

> [t]o the extent that the United States suffered any costs or damages, as may be alleged in the Complaint, these costs or damages were caused solely or at least in part by the act or omissions of third parties, for which KDC is not responsible.

The United States maintains that KDC has failed to raise a genuine issue of fact because it has not identified a responsible third-party. In response, KDC asserts that "unauthorized persons *may* have entered the properties and *may* have been responsible for releases thereon or for removal of materials that later resulted in releases" (emphasis added).

In *United States v. Poly-Carb, Inc.*, the district court held that evidence which was "likely insufficient to prove a third party affirmative defense at trial" could raise a "likelihood" sufficient to show that genuine issues of material fact exist. 951 F. Supp. 1518, 1531 (D. Nev. 1996). *Poly-Carb* involved a caustic spill and contentions by Poly-Carb's president and police chief that they had no idea how the spill occurred. *Id.* While the court in *Poly-Carb* found that the contentions were sufficient to raise a genuine issue of fact as to third-party liability, it had before it undisputed evidence that "the release [caustic spill] may very well have been caused by vandals." *Id.* at 1530.

Here, KDC has not pointed to any evidence of third-party actions, other than its unsupported contention that a third party *may* have entered the Bluffs and the Flyway. It is KDC's burden to present evidence that a third party was the sole cause of the release and that the third party had no relationship to KDC. *Id.* at 1531. KDC's assertions are hypothetical, are unsupported in the record, are insufficient

to raise a genuine issue of fact, and, therefore, are insufficient to defeat summary judgment.

3. INNOCENT PURCHASER

To avail itself of the innocent purchaser defense, KDC must show that at the time it acquired the properties, it "did not know and had no reason to know that any [asbestos] was disposed of on, in, or at the facility." 42 U.S.C. § 9601(35)(A)(i). To establish that it had no reason to know, KDC must show that at the time of its purchase, it undertook "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice...." 42 U.S.C. § 601(35)(B).

KDC does not point to facts that tend to establish that it was an innocent purchaser. KDC states only that at the time it purchased the KDC properties, there was no active mining or vermiculite processing and that it was not aware of the presence of asbestos on the property. KDC does not point to facts that show it made any inquiry into the previous ownership and uses of the property, let alone "all appropriate inquiry." KDC has failed to point to articulable, material facts that show there is a genuine issue for trial.

4. ACT OF GOD

An act of God is defined as a "natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight." 42 U.S.C. § 9601(1). KDC maintains that naturally-occurring vermiculite and asbestos minerals underlie several portions of the KDC properties and that EPA's removal efforts on the Kootenai Flyway and the Bluffs have disturbed this naturally-occurring vermiculite and asbestos, resulting in a release not attributable to KDC.

KDC's act of God defense alleges that the vermiculite and asbestos were naturally-occurring and were released as a result of the EPA's actions. That vermiculite and asbestos are naturally-occurring at the Libby Asbestos Site is not a

"natural phenomenon of an exceptional, inevitable, and irresistible character" and, therefore, is not an appropriate Act of God defense. Further, the record before the Court establishes that the EPA responded to asbestos and asbestos-contaminated vermiculite that was a by-product of vermiculite processing. This does not qualify as "a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena." 42 U.S.C. § 9604(a)(3)(i). Therefore, KDC has failed to point to material facts that it is entitled to assert an act of God or naturally-occurring substance defense.

III. CONCLUSION

Based on the analysis above, the Court finds:

1. The EPA's removal action at the Libby Site was not arbitrary and capricious and, therefore not inconsistent with the NCP.

2. Grace is liable under CERCLA for cleanup at the undisputed properties.

3. There are material issues of fact as to whether Grace is liable under CERCLA for cleanup at the disputed properties.

4. Because there are material issues of fact regarding the disputed properties and the requested response costs are not prorated by site, there are material issues of fact as to the amount of response costs.

5. KDC is liable under CERCLA for cleanup at the KDC properties.

Accordingly, IT IS HEREBY ORDERED that Plaintiff's Motion for Partial Summary Judgment re:

1. Liability of W.R. Grace and First and Fourth Affirmative Defenses (dkt # 86) is GRANTED in part and DENIED in part.

2. Response Costs and Second Affirmative Defense (dkt # 97) is DENIED.

3. Third Affirmative Defense (dkt # 93) is GRANTED.

4. Liability of KDC (dkt # 46) is GRANTED.

UNITED STATES DISTRICT COURT
FOR THE DISTRICT MONTANA
MISSOULA DIVISION

UNITED STATES of America,	)	CV 01-72-M-DWM
	)	
Plaintiff,	)	
	)	
vs.	)	ORDER
	)	
W.R. GRACE & CO.-CONN. and Kootenai Development Corporation,	)	
	)	
Defendants.	)	
	)	

The United States brought this action against Defendants W.R. Grace & Co.-Conn. ("Grace-Conn.") and Kootenai Development Corporation ("KDC") under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9601 *et seq.* to recover costs the United States has incurred responding to releases or threats of releases of asbestos in and around Libby, Montana. A bench trial was held January 6-8, 2003. Following the trial, the Court ordered the parties to submit proposed findings of fact and conclusions of law with citations to the record before the court. After the parties submitted their proposed findings and conclusions, the Court heard closing arguments on April 25, 2003. After considering the evidence and testimony submitted at trial, along with the parties' arguments and proposed findings of fact and conclusions of law, I find in favor of the United States in the amount of $54,527,081.11 and such other relief as is set forth below. I base my decision on the following Findings of Fact and Conclusions of Law.

I. FINDINGS OF FACT

A. CERCLA LIABILITY AND DEFENSES

1. LIABILITY

1. The parties have stipulated that Grace-Conn. is a liable party under CERCLA, 42 U.S.C. § 9607(a), for the Mine site, the former Screening Plant, the Flyway, the Bluffs, the former Export Plant, the Libby High School, the Libby Middle School, Plummer Elementary School, Kootenai Valley Christian School, Champion Haul Road, Rainy Creek Road, and the following residential or commercial properties in and near Libby, Montana: Beaulia, Belangie, Bowker, Brown (653 Flower Creek), Brown (346 Granite), Brownlee, Burshia, Cady, Calhoun, Cote, Dennis, Downey, Drury, Epperson, Fuhlendorf, Geer, Graham, Hebenstreit, Hilliard, Hoff, Jacabson, Jeresek, Jordon, Kootenai Angler, Long, McCulley, Mohr, Munro, Nixon, Nores, Parker (1421 Main), Parseau, Peterson, Phillips, Powers (2297 Kootenai River Rd.), Powers (2293 Kootenai River Rd.), Ray, Rice, Rodgers, Sanderson (123 Hamann), Sanderson (4241 Hwy 37), Sanderson (113 Oak), Schenck, Skramstad, Siefke, Smith, Spencer (500 Jay Effar), Spencer (229 Pinewood), Spencer Law Firm, Struck, Stubbs, Temple, Visger, Westfall, Wilkes (461 Parmenter), Wilkes (600 Ave. B). Revised Agreed Fact 48.

2. The parties have stipulated that KDC is a liable party under CERCLA, 42 U.S.C. § 9607(a)(1), for the Mine Site, Kootenai Bluffs and Kootenai Flyway because it is the "current owner" of the properties. Revised Agreed Fact 51.

3. Asbestos is a hazardous substance under CERCLA. Agreed Fact 7. *See also* 42 U.S.C. § 9601(14)(E) (referencing hazardous air pollutants listed under 42 U.S.C. § 7412(b)); 40 C.F.R. § 302.4 (asbestos on list of hazardous substances).

4. The parties have stipulated that any release or threat of release of asbestos at the properties that form the Libby Asbestos Site was not caused by an act of war. Revised Agreed Fact 52.

5. The parties have stipulated that any release or threat of release of asbestos at the Libby Asbestos Site was not caused by an act or omission of a third party. Revised Agreed Fact 53.

6. On May 23, 2000, the Environmental Protection Agency ("EPA") sent W.R. Grace & Co. and Grace-Conn. a letter demanding payment of response costs of $561,790.85 that the United States had incurred through April 30, 2000. Agreed Fact 56.

2. NATURALLY-OCCURRING ASBESTOS

7. Paul Peronard is the EPA's On-Scene Coordinator at the Libby Asbestos Site. Tr. at 38:9-19.

8. In this capacity, Mr. Peronard is responsible for overseeing the investigation and cleanup of hazardous waste sites. Tr. at 38:1-2. He has personal knowledge of the work done at the Site, and work done by the Department of Transportation (Volpe Center) and the Agency for Toxic Substances and Disease Registry (hereinafter "ATSDR") under interagency agreements with EPA. Tr. at 39:25 to 44:11.

9. Mr. Peronard's testimony is very credible.

10. Vermiculite Mountain (the "Mine Site") is a geologic formation that includes naturally occurring asbestos. Tr. at 54:19-20.

11. EPA's removal actions in and near Libby were not based on the presence of naturally-occurring asbestos undisturbed by human activity. Tr. at 55:19 to 56:8. Rather, EPA sought to remove vermiculite material disposed of in and near Libby during the mining, processing, and sale of vermiculite. Tr. at 56:5-8.

12. EPA excavated three to four feet of soil from part of the former Screening Plant north of Rainy Creek, currently owned by the Parker family. Tr. at 63:7-19.

13. On part of the Parker property where the Parkers intend to build a house, EPA encountered processed

vermiculite at greater depths than at the rest of the former Screening Plant. This material was excavated so that installation of a septic system and drain field at the planned house would not require a future EPA response. Tr. at 63:20 to 64:14.

14. This area appears to have been a borrow pit or depression that was filled with processed vermiculite. Tr. at 63:23-4. Approximately 3,000 cubic yards of material were removed from this area. Tr. at 619:4-21.

15. At the former Screening Plant, EPA took steps to avoid removing soils that were not related to vermiculite mining and processing. These steps included visual observation and refraining from excavating soils that were below a volcanic layer of ash that pre-dated vermiculite mining and processing. Tr. at 60:23 to 61:11.

16. EPA did not encounter the ash layer while excavating on the part of the Parker property discussed above in paragraphs 13 and 14. Tr. at 65:15 to 66:4.

17. Testimony by Mike Hutchinson, the geologist responsible for monitoring the excavations at the Libby Asbestos Site, contradicts testimony by Mr. Peronard. However, I find Mr. Hutchinson's testimony was not credible.

18. EPA documented the presence of layers of naturally-occurring asbestos four to ten feet below the surface of parts of the former Screening Plant. *See* A.R. Doc. No. 485941.

19. Processed, unexfoliated vermiculite was found at depths of over ten feet in an area of the Screening Plant north of Rainy Creek. A.R. Doc. No. 485941, at 2. The document reflects that EPA excavated this area "to prevent exposure to workers who in the near future would potentially be digging basements, footing trenches, water and septic lines." *Id.* at 3.

20. The mining of vermiculite removed rock, dirt, and vegetation from the top of Vermiculite Mountain, creating

an extensive disturbed area at the Mine Site. Tr. at 359:9 to 360:22.

21. Materials eroding off the Mine Site flowed to Rainy Creek and then to the Kootenai River, upstream from the Screening Plant. Tr. at 354:5 to 356:3.

22. Mining operations at the Mine Site have exposed substantial surface area that would otherwise have been covered with dirt, rock and vegetation. Tr. at 359:16-24.

23. When the Mine Site was being mined, rainfall washed material from the surface of the Mine Site to the Kootenai River. Tr. at 361:7 to 362:3.

24. The disturbed area at the Mine Site was caused by mining activity. Any asbestos that washed off disturbed areas at the Mine Site to the Kootenai River was not in its "unaltered form, or altered solely by naturally occurring processes or phenomena."

B. Costs Incurred By The United States

25. The United States claims it has incurred costs of $54,527,081.11 through December 31, 2001, for response activities at or related to the Libby Asbestos Site. This figure does not include prejudgment interest. Revised Agreed Fact 70.

1. Stipulated Costs

26. The parties have stipulated that EPA has adequately documented $1,214,289.97 in EPA payroll and travel costs; $1,372,000.00 in certain EPA indirect costs; 32; $2,382,127.89 in EPA contract costs; $26,927,611.95 in EPA interagency agreement costs, excluding ATSDR and Volpe Center/Aeolus, Inc. costs; $840,352.29 in EPA miscellaneous costs; $27,379.35 in Public Health Service travel costs; and $208,364.28 in Department of Justice costs.

27. The total amount for which the parties have stipulated to the adequacy of documentation is $32,972,125.73.

a. EPA PAYROLL AND TRAVEL COSTS

28. The parties stipulate to the adequacy of documentation for $822,536.62 in EPA Region 8 payroll costs through December 31, 2001. Agreed Fact 72.

29. The parties stipulate to the adequacy of documentation for $251,440.77 in EPA Region 8 travel costs through December 31, 2001. Agreed Fact 74.

30. The parties stipulate to the adequacy of documentation for $95,336.17 in EPA headquarters payroll costs through December 31, 2001. Agreed Fact 73.

31. The parties stipulate to the adequacy of documentation for $44,976.41 in EPA headquarters travel costs through December 31, 2001. Agreed Fact 75.

32. The amounts in paragraphs 27 through 30 total $1,214,289.97.

b. EPA INDIRECT COSTS

33. Defendants do not dispute $1,372,000 in EPA indirect costs incurred at or related to the Libby Asbestos Site through December 31, 2001. Revised Agreed Fact 71.

c. EPA CONTRACT COSTS

34. The parties stipulate to the adequacy of documentation for $2,212,437.33 in costs incurred under the Enforcement Support Services ("ESS") Contract No. 68-W9-9050 with Toeroek Associates Inc. for response activities at or related to the Libby Asbestos Site through December 31, 2001. Agreed Fact 80.

35. The parties stipulate to the adequacy of documentation for $145,266.57 in costs incurred under the Response Action Contract ("RACS") No. 68-C9-9223 with Lockheed Martin Services, Inc. for response activities at or related to the Libby Asbestos Site through December 31, 2001. Agreed Fact 81.

36. The parties stipulate to the adequacy of documentation for $9,296.94 in costs incurred under the

Superfund Technical Assist Response Team Contract No. 68-W5-0031 with URS Operating Services, Inc. for response activities at or related to the Libby Asbestos Site through December 31, 2001. Agreed Fact 82.

37. The parties stipulate to the adequacy of documentation for $14,781.81 in costs incurred under the Technical Support and Site Evaluation Program Contract No. 68-WO-1010 with IT Corp. for response activities at or related to the Libby Asbestos Site through December 31, 2001. Agreed Fact 83.

38. The parties stipulate to the adequacy of documentation for $345.24 in costs incurred under the Technical Support and Site Evaluation Program Contract No. 68-W9-8106 with Dyncorp I & ET, Inc. for response activities at or related to the Libby Asbestos Site through December 31, 2001. Agreed Fact 84.

39. The amounts in paragraphs 34 through 38 total $2,382,127.89.

d. EPA INTERAGENCY AGREEMENT COSTS (EXCLUDING ATSDR)

40. EPA performed much of the investigatory and cleanup work at the Libby Asbestos Site through the use of Interagency Agreements with other federal agencies. Tr. at 40: 2-9, 41:21 to 42-10.

41. The parties stipulate that the United States Geological Survey ("USGS") incurred $123,217.05 in costs under Interagency Agreement No. DW14953782 for response activities at or related to the Libby Asbestos Site through December 31, 2001. Supplemental Agreed Fact 92. USGS assisted EPA on issues related to asbestos analysis and the mineralogy of the Libby vermiculite deposit. Tr. at 41:21 to 42:4.

42. In November 1999, the Volpe Center began working with EPA Region 8 to support its investigation at the Libby Asbestos Site. Tr. at 324:21 to 325:1. The Volpe Center conducted its activities at the Libby Asbestos Site through

an interagency agreement with EPA. Tr. at 325:19, 326:3-5; Exhibit 1063. The Volpe Center's work at Libby included, among other things, removal of hazardous substances, investigation, community relations, and operating management information systems. Tr. at 325:2-9; 39:25 to 41:8.

43. John McGuiggin testified about activities performed and costs incurred by the Volpe Center at or related to the Libby Asbestos Site. Mr. McGuiggin is an environmental engineer and is the Libby Asbestos Site project manager for the Volpe Center. He has personal knowledge of the activities performed and costs incurred by the Volpe Center. Tr. 324:24 to 325:17.

44. The parties stipulate to the adequacy of documentation for $26,804,394.90 in Volpe Center costs under Interagency Agreement No. DW69953792 for response activities at or related to the Libby Asbestos Site through December 31, 2001. Revised Agreed Fact 86.

45. The parties stipulate that $3.86 million of the Volpe Center costs for response activities at or related to the Libby Asbestos Site incurred through December 31, 2001, were incurred at the Kootenai Bluffs and Flyway properties, currently owned by Defendant KDC. Supplemental Agreed Fact 91.

46. Total interagency agreement costs for response activities at or related to the Libby Asbestos Site incurred through December 31, 2001, for which the adequacy of documentation is undisputed are $26,927,611.95.

e. EPA Miscellaneous Costs

47. The parties stipulate to the adequacy of documentation for EPA Miscellaneous Costs of $840,352.29 incurred through December 31, 2001, for response activities at or related to the Libby Asbestos Site. Agreed Fact 85.

f. PUBLIC HEALTH SERVICE TRAVEL COSTS

48. The parties stipulate to the adequacy of documentation for $27,379.35 in U.S. Department of Health and Human Services, Public Health Service ("PHS") travel costs for response activities at or related to the Libby Asbestos Site incurred through December 31, 2001. Agreed Fact 88.

g. DEPARTMENT OF JUSTICE COSTS

49. The parties stipulate that the United States has incurred costs of $208,364.28 through December 31, 2001, for U.S. Department of Justice ("DOJ") employee payroll and indirect costs for enforcement activities related to the Libby Asbestos Site. Agreed Fact 87.

50. The parties stipulate that the DOJ costs are reasonable. Agreed Fact 87.

2. DISPUTED COSTS

a. AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY ("ATSDR") COSTS

(1) BACKGROUND

51. ATSDR is an agency of the United States Department of Health and Human Services and the sister agency of the Centers for Disease Control and Prevention. *See* 42 U.S.C. § 9604(i)(1).

52. Among other things, ATSDR is responsible for assessing public health issues related to the release of hazardous substances. Tr. at 98:15 to 99:5. *See also* 42 U.S.C. § 9604(i).

53. To further its responsibilities, ATSDR is authorized by CERCLA to conduct survey and screening programs to "determine relationships between exposure to toxic substances and illness." 42 U.S.C. § 9604(i)(1)(E).

54. Sharon Campolucci testified about ATSDR's involvement at the Libby Asbestos Site. She is the Deputy

Director for the Division of Health Studies at ATSDR and was the project officer and field coordinator in Libby. She has personal knowledge of ATSDR's activities at the Libby Asbestos Site. Tr. at 94:21-13; 97:7-12; 102:6-20; 104:21 to 105:21.

(2) ATSDR'S SITE-RELATED ACTIVITIES

55. In late 1999, EPA asked ATSDR to participate in the government's response to the release of asbestos in and around Libby, Montana. Tr. at 105:22-25; 42:5 to 43:2.

56. As part of this response, ATSDR prepared a comprehensive plan outlining the activities ATSDR intended to undertake at the Site. Tr. at 104:3-20.

57. Under this plan, ATSDR (i) conducted a Medical Testing Program; (ii) performed a Mortality Analysis; (iii) conducted a Pilot Study of Environmental Cases; (iv) conducted a CT Study; (v) provided health education; (vi) implemented a tracing project, a precursor to the Tremolite Asbestos Registry; and (vii) prepared a substance-specific health consultation on tremolite asbestos.

(a) MEDICAL TESTING PROGRAM

58. ATSDR's largest activity in Libby in terms of both time and money was its Medical Testing Program. *See, e.g.*, Exhibit 1141, at 5891 (showing that ATSDR incurred more than $5,000,000.00 in connection with the Medical Testing Program).

59. ATSDR began planning for the Medical Testing Program soon after EPA provided information indicating that residents in the community had been exposed to asbestos and that associated health concerns had been documented by the local medical community. *See* Tr. at 168:19-25, 106:6-8, 167:23 to 168:18.

60. The Medical Testing Program involved testing residents and former residents of Libby to determine the

extent of adverse health effects from exposures to asbestos. *See* Exhibit 1145, at 1860; Tr. at 106:1-5.

61. The Medical Testing Program was implemented in two phases. Tr. at 109:8-9. In the first phase, ATSDR, through its contractor National Opinion Research Center ("NORC"), conducted more than 12,000 telephone screening interviews. Tr. at 110:5-11. The purpose of the interviews was to determine eligibility, based on criteria developed by ATSDR, for medical testing. Tr. at 109:8 to 110:4.

62. In the second phase, ATSDR, through NORC and the Association of Occupational & Environmental Clinics ("AOEC"), performed medical testing on more than 7,000 eligible individuals. Tr. at 110:19 to 111:1, 123:5-6.

63. ATSDR conducted medical testing in a clinic it established in Libby. Tr. at 112:9 to 113:3. ATSDR also conducted testing in Elko, Nevada, to accommodate former Libby residents who had moved to a mining community there after the mine in Libby closed. Tr. at 121:22 to 122:10.

64. Between July 5, 2000, and November 2, 2000, the first year of the Medical Testing Program, ATSDR's Libby clinic was generally open seven days per week for 8 to 12 hours per day. During 2001, the clinic was open from July 29 through approximately September 7. Tr. at 121:10-21.

65. An initial step in the medical testing was an interview in which participants were asked to complete a consent form and to provide information on their medical and residential histories. Tr. at 114:1-20.

66. After the interview, participants were given a pulmonary function test, which measures lung capacity. A diminished lung capacity is a marker for asbestos-related lung abnormalities. *See* Tr. at 115:8-17.

67. Following the pulmonary function test, participants had three chest x-rays taken—one posterior anterior (front to back) and two obliques. Tr. at 117:14 to 118:1.

68. The results of the pulmonary function test were reviewed on site by a pulmonologist. Tr. at 116:23 to 117:6.

69. The chest x-rays were also read on site for urgent care needs by a radiologist. Tr. at 118:2-8. The results were then read off-site by at least two B-readers for asbestos-related lung abnormalities. Tr. at 118:9 to 119:3.

70. At the end of his or her appointment, each participant was given a summary of the tests that had been performed, a patient ID number, information about when the final results would be available, a phone number to call with any questions, and a fact sheet about asbestos. Tr. at 120:18 to 121:6.

71. Once available, the final test results were mailed to participants and their designated health care providers. Tr. at 121:7-9.

72. Aggregate results from the Medical Testing Program were reported in the ATSDR study entitled: Year 2000 Medical Testing of Individuals Potentially Exposed to Asbestiform Minerals Associated With Vermiculite in Libby, Montana: A Report To the Community. A.R. Doc. No. 487408.

73. The Medical Testing Program was a "health effects study." *See* Tr. at 170:1-5, 167:12-17; 42 C.F.R. § 90.2 (defining "health effects study" as "research, investigation, or study ... to evaluate the health effects of exposure to hazardous substances at specific sites").

(b) MORTALITY ANALYSIS

74. In addition to the Medical Testing Program, ATSDR conducted a mortality analysis as part of its health-related activities at the Site. Tr. at 149:13-15. The analysis involved a review and analysis of the death certificates of former Libby residents. Tr. at 149:18-22.

75. The purpose of the mortality analysis was to determine if there was a higher mortality rate from specific diseases in the Libby area. Tr. at 149:23-25.

76. Aggregate results from the mortality analysis were reported in the ATSDR study entitled: Health Consultation: Mortality from Asbestosis in Libby, Montana. Exhibit 1145 at 810-64.

77. The mortality analysis was a "health effects study." *See* Tr. at 170:6-10, 167:12-17; 42 C.F.R. § 90.2.

(c) PILOT STUDY OF ENVIRONMENTAL CASES

78. In addition to the Medical Testing Program and mortality analysis, ATSDR performed a pilot study of environmental cases ("Pilot Study") in connection with the Libby Asbestos Site. Tr. at 150:9-11.

79. As part of the Pilot Study, ATSDR, with the assistance of NORC, reviewed the medical records of Libby residents and former residents who had been diagnosed with an asbestos-related disease. Tr. at 150:9-21.

80. The main purpose of the Pilot Study was to determine whether residents of Libby were at risk of developing asbestos-related diseases solely based on having lived in Libby. A second purpose was to examine the clinical progression of asbestos-related diseases to better understand how the diseases progress. Tr. at 150:12-21.

81. The Pilot Study was a "health effects study." *See* Tr. at 170:11-13, 167:12-17; 42 C.F.R. § 90.2.

(d) CT STUDY

82. ATSDR also conducted a Computed Tomography study ("CT Study") as part of its activities at the Libby Asbestos Site. Tr. at 151:24-25.

83. The CT Study involved taking approximately 325 CT scans of current and former residents of Libby. Tr. at 152:21 to 153:11.

84. The purpose of the CT Study was to determine whether CT scans were more effective than chest x-rays at detecting asbestos-related lung abnormalities. Tr. at 152:10-13.

85. The CT Study was a "health effects study." See Tr. at 170:16-17, 167:12- 17; 42 C.F.R. § 90.2.

(e) HEALTH EDUCATION

86. At EPA's request, and as part of its own response, ATSDR provided health education as part of its response at the Libby Asbestos Site. *See* Tr. at 154:15-16; 45:8-24.

87. EPA provided ATSDR with $4,725,000 through a site-specific interagency agreement for the explicit purpose of (1) providing "medical testing for people in the community who have had past exposures to asbestos in order to identify people with asbestos-related conditions so that they can be referred for medical care" (*i.e.*, the Medical Testing Program) and (2) providing "a public health education program to assist local health care providers and residents in obtaining full and up-to-date information on asbestos-related risks and diseases." Exhibit 1145 at 881-82

88. ATSDR's health education activities included conducting stress management workshops, holding smoking cessation classes, providing continuing medical education, and preparing fact sheets. Tr. at 154:17-21, 157:20-22.

89. ATSDR held six stress management workshops—five for counselors, such as social workers, nurses and clergy, and one for the community. Tr. at 155:2-7. These workshops were taught by an ATSDR staff psychiatrist, Tr. at 154:22-25, and were offered as part of ATSDR's effort to prepare the community for the anxiety and depression expected to follow the dissemination of information generated through the Medical Testing Program. Tr. at 155:18 to 156:1. The topics covered during the workshops included counseling on grieving and anxiety associated with asbestos-related diseases and, for family members, dealing with ongoing care for people who have asbestos-related diseases. Tr. at 155:10-17.

90. ATSDR held four smoking cessation classes. These classes were held to educate the community on the increased

health risk those with asbestos-related disease face when they smoke. Tr. at 156:15 to 157:11.

91. As part of its health education efforts, ATSDR also provided continuing medical education. The continuing medical education was offered to physicians and health care providers in Libby and Kalispell over a two-day period. Tr. at 158:2-21. *See also* Exhibit 1145, at 1398-422. The purpose was to provide local physicians and health care providers with information about asbestos-related diseases, including diagnosis, to prepare them to treat those suffering from asbestos-related diseases in the Libby community. Tr. at 158:22 to 158:13.

92. ATSDR also prepared 10 to 12 fact sheets on a variety of asbestos-related topics affecting the Libby community. Tr. at 160:12-14. The fact sheets were part of ATSDR's effort to communicate the results of its response activities to the Libby community. Tr. at 159:14 to 160:11.

93. Health education facilitates community understanding of and cooperation with EPA's cleanup activities. Tr. at 44:23 to 45:13. Health education is a prudent public health practice, an integral part of ATSDR's site-related activities, and an essential means for communicating the results of ATSDR's response activities to the Libby community. *See e.g.* Tr. at 170:20 to 171:5.

94. Though ATSDR's health education activities at Libby are neither "health assessments" nor "health effects studies," each is "necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment" and, therefore, they are part of the government's removal action at the Libby Asbestos Site. See 42 U.S.C. § 9601(23) (defining "removal" to include "such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release [of a hazardous substance]"). See also 40 C.F.R. §§ 300.155 and 300.415(n) (concerning community relations); Tr. at 44:4 to 45:24; Exhibit 1145 at 881

(providing ATSDR with EPA funding explicitly for health education in Libby).

(f) TRACING PROJECT/ REMOLITE ASBESTOS REGISTRY

95. As part of its response in Libby, ATSDR initiated a tracing project. The purpose of the tracing project was to identify individuals who worked at W.R. Grace's vermiculite mine or vermiculite processing facilities or lived with someone who had. Tr. at 161:8-25.

96. The tracing project was a precursor to the Tremolite Asbestos Registry. Tr. at 162:12-20.

97. The Tremolite Asbestos Registry represents ATSDR's effort to locate and follow individuals who worked at W.R. Grace's vermiculite mine or related facilities or lived with someone who had to determine the health effects of asbestos exposure over an extended period of time. Tr. at 163:12-21.

98. The tracing project was part of a "health effects study"—the Tremolite Asbestos Registry. See Tr. at 171:6-12, 167:12-17; 42 C.F.R. § 90.2 (defining "health effects study" to specifically include exposure and disease registries).

(g) SUBSTANCE-SPECIFIC HEALTH CONSULTATION ON TREMOLITE ASBESTOS

99. In connection with ATSDR's response in Libby, ATSDR also prepared a site-specific health consultation on tremolite asbestos. Tr. at 164:25 to 165:2, 165:20 to 166:6.

100. The health consultation on tremolite asbestos contains ATSDR's knowledge on tremolite asbestos and was prepared in direct response to the human health threats posed by the Libby Asbestos Site and provided ATSDR with necessary background information for many of its health-related activities at the Site. Tr. at 165:5-19.

101. While the health consultation on tremolite asbestos is neither a "health assessment" nor a "health effects study," it was necessary for ATSDR to arm itself with information about tremolite asbestos so it could respond appropriately to the Libby Asbestos Site. The health consultation was "necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment" and, therefore, was part of the government's removal action. See 42 U.S.C. § 9601(23).

(3) DOCUMENTATION OF ATSDR COSTS

102. ATSDR used two sources to pay costs incurred during its response activities at the Libby Asbestos Site: (1) its own general appropriations and (2) a site-specific interagency agreement with EPA. *See* Tr. at 139:24 to 140:3. *See also* Exhibit 1141 at 5889-91 (distinguishing between costs incurred under site-specific inter-agency agreement and those incurred from general appropriations).

103. ATSDR tracked its costs by using five categories: payroll, travel, extramural, indirect, and other. Tr. at 175:15-22.

104. ATSDR has summarized its Libby costs through December 31, 2001, in a cost summary. Exhibit 1141, at 5891. ATSDR has documented its Libby costs through December 31, 2001, in a cost recovery package. Exhibit 1145.

105. Betty Jones testified about the documentation of ATSDR's costs. Ms. Jones is a certified public accountant and is the Cost Recovery team leader for ATSDR. She oversees the cost recovery accounting process for ATSDR and has personal knowledge of ATSDR's overall accounting process and the specific accounting used for the Libby Asbestos Site. Tr. at 174:2-19. I find her testimony credible and persuasive.

(a) PAYROLL COSTS

106. ATSDR tracks its payroll costs using cost recovery time sheets. Tr. at 176:10-11; Exhibit 1135.

107. The time sheets are completed electronically and input directly into ATSDR's Cost Recovery System ("CRS") by each ATSDR employee doing site-specific work. Tr. at 178:23-25, 179:17 to 181:1.

108. ATSDR's time sheets record the employee's name; the pay period; the pay period date; the activity codes describing the nature of the work performed; the site codes describing the site to which the work relates; the site name and State; and the hours worked. Tr. at 181:11-21; Exhibit 1135.

109. Once completed, the time sheets are signed and dated by both the employee and the employee's supervisor. The signatures confirm that the employee and his or her supervisor have reviewed the time sheet for accuracy and completeness. Tr. at 182:15-22.

110. The information on the time sheets is summarized on payroll summaries, including a Comprehensive Payroll Expense Report and a Payroll Expense Report.

111. The Comprehensive Payroll Expense Report is generated by CRS. It is prepared for a specific site and contains the names of each employee doing site-specific work, the fiscal year in which the work was done, the pay period, the activity code, the hours worked, and the corresponding payroll amount. *See, e.g.*, Exhibit 1145, at 928-48; *see also* Tr. at 205:3-19.

112. The Payroll Expense Report summarizes the Comprehensive Payroll Expense Report and contains the name of each employee doing site-specific work, the fiscal year, the hours worked, and the total payroll amount by employee and fiscal year. *See, e.g.*, Exhibit 1145, at 911-27.

113. The payroll summaries for the Libby Site, copies of all cost recovery time sheets supporting the payroll summaries, and a summary of activity codes are included in

ATSDR's cost recovery package. *See, e.g.*, Exhibit 1145, at 911-1302; Tr. at 206:5-20.

(b) TRAVEL COSTS

114. ATSDR documents its travel costs using travel orders and travel vouchers.

115. The travel order authorizes an employee to travel. Tr. at 184:6-12. It contains the travel order number, the traveler's name, the traveler's social security number, the purpose of the trip, and an estimate of the travel costs. Exhibit 1134, at 8306-08.

116. ATSDR's cost recovery group reviews all travel orders to determine whether the purpose of the travel is site-specific. Tr. at 185:22 to 186:3.

117. ATSDR tracks site-specific travel by manually inputting the travel information into CRS, the same electronic system ATSDR uses to track its payroll costs. Tr. at 186:15-20.

118. The travel voucher is used for authorization and payment of travel costs. *See* Exhibit 1134. It is prepared after an employee completes his or her travel. The travel voucher includes documentation of specific travel costs, such as airline and hotel receipts, and is signed by the employee. *Id.;* Tr. at 184:1-5.

119. The costs reflected on a travel voucher are included in a cost recovery package only after they have actually been paid. Tr. at 186:21 to 187:4. Payment is verified through an interface between CRS and the financial management system. When the voucher is paid, the financial management system automatically downloads to CRS the amount paid, the treasury schedule number, and the date. Tr. at 187:5-11.

120. Once ATSDR's cost recovery group receives notification that a travel voucher has been paid, it compares the voucher with the employee's time sheet to verify that the

purpose of the trip and the time sheet coincide. Tr. at 187:12-18.

121. If the voucher is consistent with the time sheet, the cost recovery group approves the travel voucher in CRS and the amount can be included in a cost recovery package. Tr. at 187:19 to 188:7.

122. Like payroll costs, ATSDR's travel costs are summarized in travel expense summaries for each site, including a Comprehensive Travel Expense Report and a Travel Expense Report.

123. The Comprehensive Travel Expense Report is generated by CRS for each site and contains the names of each employee traveling on site-related work; the fiscal year in which the travel was taken; the obligation document number ("ODN")/travel order number; voucher amount; ticket amount; total travel expense amount; and treasury schedule number confirming payment of the total travel expense amount. *See, e.g.*, Exhibit 1145, at 1968-78. *See also* Tr. at 205:3-19.

124. The Travel Expense Report summarizes the Comprehensive Travel Expense Report and contains employees' names; ODN/travel order numbers; treasury schedule numbers; and amounts paid. *See, e.g.*, Exhibit 1145, at 1964-67; Tr. at 207:5-13.

125. The travel expense summaries for the Libby Asbestos Site and copies of all travel orders and travel vouchers relating to those summaries are included in ATSDR's cost recovery package. *See, e.g.*, Exhibit 1145 at 1964-3060. *See also* Tr. at 207:18-24.

(c) EXTRAMURAL COSTS/NORC AND AOEC

126. ATSDR used both a task order contract and a cooperative agreement to accomplish its health-related activities in Libby.

127. For example, ATSDR used several task orders, numbered 13, 14, 15, and 16, under its contract with NORC to perform work relating to the Libby Site. Task Order 13 related to the Medical Testing Program; Task Order 14 related to the CT Study; Task Order 15 related to the Pilot Study of Environmental Cases; and Task Order 16 related to the tracing project/Tremolite Asbestos Registry. *See* Exhibit 1152.

128. ATSDR used its existing cooperative agreement with AOEC to secure its assistance with the Medical Testing Program. *See* Tr. at 110:24 to 111:1, 111:11 to 112:8.

129. ATSDR categorizes costs associated with both task order contracts and cooperative agreements as extramural costs. Tr. at 190:24 to 191:1.

130. Under both funding mechanisms, ATSDR obligates a specific amount of money for a given task. *See, e.g.*, Exhibit 104 (seeking authorization for funding NORC for first phase of Medical Testing Program); Exhibit 1136 (documenting that request for NORC funding for first phase of Medical Testing Program granted); Exhibit 1153 (documenting increase in NORC funding for Medical Testing Program); Exhibit 1154 (AOEC's application for funding); Exhibit 1133 (seeking authorization for funding AOEC for its participation in Medical Testing Program); Exhibit 1198 (documenting that request for AOEC funding granted). Once obligated, funding is transferred to an account maintained for the contractor/cooperative partner using a letter of credit. *See* Tr. at 137:17-25.

131. Upon transfer, funds are immediately available to the contractor or cooperative partner without further action on the part of ATSDR. *See* Tr. at 131:23 to 132:8.

132. Progress under both task order contracts and cooperative agreements is documented in progress reports. *See, e.g.*, Exhibit 1132; Exhibit 1149.

133. With respect to its work in Libby, NORC submitted a monthly progress report to Sharon Campolucci, ATSDR's

project officer and field coordinator for the Libby Site. *See* Exhibit 1132; Tr. at 132:9-17. Ms. Campolucci reviewed these reports to verify that they were consistent with her understanding of the work done in Libby. Tr. at 133:5-020.

134. In addition to the monthly progress reports, NORC submitted an invoice to Ms. Campolucci every month for each task. *See* Exhibit 1131; Tr. at 135:11 to 136:18. These invoices were reviewed by either Ms. Campolucci or her staff. Tr. at 136:16 to 137:16. Discrepancies were brought to NORC's attention and, as warranted, corrected. *See id.*

135. AOEC provided ATSDR with quarterly progress reports, summarizing AOEC's work at all sites, including the Libby Asbestos Site. *See* Exhibit 1149; Tr. at 145:24 to 146:4. Progress reports were reviewed by Ms. Campolucci or her staff to verify that they were consistent with her understanding of AOEC's work in Libby. Tr. at 145:24 to 147:5.

136. Extramural costs are not tracked in ATSDR's CRS. Tr. at 191:5-11.

137. Instead, when ATSDR is asked to prepare a cost recovery package for a site, it determines whether it has incurred extramural costs relating to that site. Tr. at 191:12 to 192:6.

138. Where there are extramural costs, ATSDR requests cost information and supporting documentation from the contractor and/or cooperative partner. Tr. at 192:7-13.

139. Upon receipt, ATSDR's cost recovery group conducts an overall review of the information and documentation. It checks for mathematical errors and missing documentation. Tr. at 193:6-19.

140. After it checks for mathematical errors and missing documentation, ATSDR's cost recovery group manually includes the extramural costs in the cost recovery package as a line item in the cost summary. *See, e.g.*, Exhibit 1141, at 5891; Tr. at 192:7-13.

141. Cost information and supporting documentation relating to ATSDR's extramural costs, including authorization documents, *see, e.g.*, Exhibit 1136; invoices, *see, e.g.*, Exhibit 1131; progress reports *see, e.g.*, Exhibit 1132, Exhibit 1145, at 5373-96; and expense summaries, *see, e.g.*, Exhibit 1145, at 5370-72, 5396, 5398, are included in ATSDR's cost recovery package for the Libby Asbestos Site. *See* Tr. at 209:16-21; *see also* Exhibit 1145, at 1303-455.

(d) ATSDR INDIRECT COSTS

142. ATSDR also incurs indirect costs. Tr. at 194:21-22. Indirect costs are commonly referred to as overhead. Examples include rent, utilities, information systems, and computer services. Tr. at 194:11-15.

143. ATSDR calculates its indirect costs by using an indirect cost rate. Tr. at 194:23-24.

144. ATSDR's indirect cost rate is calculated each fiscal year by Cotton and Company. Tr. at 194:25 to 195:7, 221:4-6, 222:2-5.

145. Once the indirect cost rate is finalized for a particular fiscal year, ATSDR's cost recovery group manually inputs the rate into CRS. Tr. at 197:1-3.

146. To determine its indirect costs for any particular site, ATSDR multiplies the total number of direct site hours by the applicable indirect cost rate. Tr. at 197:4-17. This calculation is automatically done by CRS and is documented on an indirect cost expense report. *See* Tr. at 208:24 to 209:4.

147. ATSDR's total indirect costs, through the pay period ending December 29, 2001, associated with the Libby Asbestos Site were $4,581,885.00. *See* Exhibit 1141, at 5891.

148. The indirect cost expense report for the Libby Asbestos Site and copies of relevant pages from Cotton and Company's indirect cost rate report showing the final calculation of the indirect cost rate are included in ATSDR's

cost recovery package. *See* Exhibit 1145, at 4626-27; Tr. at 208:24 to 209:4.

(e) "OTHER" COSTS

149. "Other" costs are all costs that are not payroll, travel, extramural, or indirect. Tr. at 188:16-22.

150. The primary other cost associated with the Libby Asbestos Site is the administrative fee paid to the Centers for Disease Control and Prevention ("CDC"). The administrative fee covers administrative support services provided by CDC to ATSDR. *See* Exhibit 1145, at 4306-08.

151. "Other" costs are documented in two ways. Some are tracked in CRS; some are tracked by invoice. In either case, to be included in a cost recovery package, the cost recovery group must be aware of them. Tr. at 188:23 to 189:8.

152. For those costs that can be tracked in CRS, payment is verified through an interface between CRS and the financial management system. When the cost is paid, the financial management system automatically downloads the payment information to CRS. Tr. at 189:15-21.

153. Once ATSDR's cost recovery group receives notification that an "other" cost in CRS has been paid, through the automatic interface between CRS and the financial management system, the cost recovery group reviews the documentation supporting the cost to insure that it is complete, that the cost was site-specific, that it was authorized, and that it was paid. Tr. at 189:22 to 190:23.

154. If the supporting documentation is complete, and the cost is site-specific, authorized and paid, the cost recovery group manually approves the cost in CRS and the amount can be included in a cost recovery package. Tr. at 190:12-23.

155. For those costs that cannot be tracked in CRS, the cost recovery group keeps pertinent documentation, such as invoices, purchase orders, credit card bills and receipts, in a site-specific file. Tr. at 189:9-14. When a cost recovery package is prepared, these costs are manually included in

the line item in the cost summary for "other" costs. *See generally* Exhibit 1141, at 5891; Tr. at 207:25 to 208:3.

156. Summary reports reflecting payment of "other" costs tracked in CRS; copies of invoices, purchase orders, credit card bills and receipts; financial records from CDC reflecting the amount of the administrative fee; and CDC's authority for charging ATSDR the administrative fee are included in ATSDR's cost recovery package for the Libby Asbestos Site. Tr. at 208:4-18.

(4) SUMMARY OF ATSDR COSTS

157. ATSDR incurred $11,338,191.62 in costs relating to the Libby Asbestos Site through December 31, 2001. Exhibit 1141, at 5891; Tr. at 204:16-21.

158. Of ATSDR's total costs, $943,281.99 were for payroll costs; $209,410.96 were for travel costs; $278,582.60 were for "other" costs; $4,581,885.00 were for indirect costs; and $5,325,031.07 were for extramural costs—$4,044,748.00 to NORC and $1,280,283.07 to AOEC. *See* Exhibit 1141, at 5891.

159. The United States has proven through testimony and sufficient documentation that it is entitled by a preponderance of evidence to recovery of the full $11,338,191.62 of ATSDR's costs.

b. VOLPE CENTER/AEOLUS, INC. COSTS

160. Defendants contend that costs EPA incurred through its inter-agency agreement with the Volpe Center related to a contract with Aeolus, Inc. ("Aeolus") should have been billed to a non-site specific account rather than to the Libby Asbestos Site project.

161. EPA incurred $266,538.10 in costs related to the Volpe Center's contract with Aeolus through December 31, 2001. Tr. at 516:9-11, 17-19; 334:7-13.

162. Defendants also contend that no work was performed under one Aeolus task order, and that one Aeolus progress report was dated after the work was performed. Tr. at

548:4-18. Defendants do not contest the adequacy of the documentation of Aeolus costs. Tr. at 548:19-24.

163. The Volpe Center contract with Aeolus required the company to perform six tasks and produce deliverables related to the tasks. The tasks were: 1) review relevant asbestos literature to allow the government to make more relevant assessments of the risks posed at the Libby Asbestos Site; 2) review of the Libby Asbestos Site risk documentation; 3) obtain, review, and organize data to update existing recommended risk factors and exposure indexes; 4) reevaluate the appropriateness of the current mesothelioma model being used to derive recommended risk factors and exposure indexes; 5) apply the "new" risk models to available exposure and mortality data sets; and 6) complete modifications and revisions to finalize the existing methodology. Tr. at 47:6 to 48:6; 344:22 to 345:13. *See also* Exhibit 1192, at 10197, 10199-202.

164. Aeolus produced a two-volume final report and risk assessment model under the contract with the Volpe Center. Tr. at 48:10 to 49:4. *See also* Exhibit 1186; Exhibit 1187. The two-volume report included everything that Aeolus had produced as deliverables under the contract, including the epidemiological reviews and the bibliography as well as the revised or proposed risk assessment model that could be used for assessing asbestos risk. *See* Exhibit 1186; Exhibit 1187.

165. EPA was satisfied with Aeolus' work product and found it helpful to the work being done in Libby. Tr. at 49:18 to 50:17.

166. Aeolus provided the Volpe Center with progress reports that summarized the work that it did under the firm fixed-price contract with the agency. Tr. at 329:12-19.

167. Progress Report No. 2, which covered the period from February 6 to February 19, 2001, was dated June 28, 2002. Tr. at 330:11-19, 336:23 to 337:6. *See also* Exhibit 1183.

168. EPA relied on work produced by Aeolus in its work at the Libby Asbestos Site. Tr. at 51:15-19.

169. EPA included studies that Aeolus had identified in the Administrative Record for the Libby Asbestos Site and relied on them in its cleanup decisions; incorporated Aeolus' review of epidemiological studies in the sampling analysis plans it prepared for the Libby Asbestos Site; and used Aeolus' analysis of the type and toxicity of different types of asbestos fibers to help formulate its sampling plans at the Libby Asbestos Site. Tr. at 46:15-19, 47:6 to 48:6, 50:2-17. EPA specifically used Aeolus' work related to sampling in Libby, and the narrative information he provided about the epidemiological studies and the nature and behavior of asbestos. Tr. at 51:9-14.

170. One of Aeolus' tasks was to reassess the asbestos risk assessment methodology that was being used at the time because EPA Region 8 determined that that methodology may have been insufficient to protect the Libby community. Tr. at 345:16 to 346:20. *See also* Exhibit 1191, at 10187-88; Exhibit 1192, at 10198-99. Though EPA has not used the quantitative risk model that Aeolus developed for risk assessment calculations at the Libby Asbestos Site thus far, it may do so in the future. Tr. at 51:15-17, 51:25 to 52:15.

171. The United States has proven by testimony and sufficient documentation it is entitled to recovery of $266,538.10 in Aeolus costs that EPA incurred through its interagency agreement with the Volpe Center.

c. EPA INDIRECT COSTS

172. The cost of cleanups EPA performs under its CERCLA authority includes both direct and indirect costs. Tr. at 247:22 to 249:11.

173. Direct costs are costs incurred by an organization to produce a product or service. Tr. at 248:6-12. Examples of EPA's direct costs include the salary of EPA personnel for time spent directing cleanup activities at a site, the cost of

travel to the site, and the cost of contractors performing work at the site. Tr. at 248:13-23.

174. Indirect costs are costs incurred by an organization that support the production of a product or service but which cannot be specifically identified with that product or service. Indirect costs are commonly called "overhead" costs. Examples of indirect costs include costs of rent, electricity, employee leave time, and the computer network. Tr. at 248:24 to 249:11.

175. EPA should account for the cost of its Superfund activities through both direct and indirect costs. Tr. at 553:9-11. Contracts, interagency agreements, and state cooperative agreements are part of EPA's activities within the Superfund program. Tr. at 553:12-15.

176. The Statement of Federal Financial Accounting Standards No. 4 ("Standard No. 4") is the generally accepted cost accounting principle applicable to the federal government. Tr. at 244:12-16; 551:19-24. *See also* Exhibit 1058, at 06356.

177. The EPA is required to follow Standard No. 4. Tr. at 244:20 to 245:2; 577:2-5; 577:18-23. Although other cost accounting standards exist, they do not apply to EPA's internal accounting. Tr. at 245:5-19.

178. Standard No. 4 does not require that EPA use any particular methodology to calculate its indirect costs, nor does it tell EPA how it must develop its methodology for calculating the indirect rate. Tr. at 551:25 to 552:6; 283:2-5.

179. Rather, the language of Standard No. 4 is intentionally broad to allow maximum flexibility for federal agencies in developing costing methodologies that best suit their agencies. Tr. at 283:6-15; 552:7-12. *See also* Exhibit 1058, at 06358.

180. The requirements of Standard No. 4 are: 1) cost accounting, or regularly reporting costs; 2) responsibility segments, or identifying organizations within EPA that produce products or services; 3) full costs, or identifying the

full costs of outputs; 4) inter-entity costs, or costs incurred by other federal agencies that provide goods or services to the EPA; and 5) costing methodology, or using appropriate costing methodologies to accumulate and assign costs to outputs. Tr. at 246:12 to 247:5. *See also* Exhibit 1058, at 06357-58; Exhibit 415, at 05940.

(1) EPA'S REVISED INDIRECT COST METHODOLOGY

181. Before Fiscal Year 2000, EPA employed a methodology based upon EPA labor hours charged to Superfund sites for determining its indirect costs. Tr. at 264:21 to 265:2. That methodology did not take into account the complexity and magnitude of all of the activities that take place at a Superfund site, as labor hours are only a small component of site-specific costs. Tr. at 276:13-17. *See also* Exhibit 64, at 05895-96 (Guidance on Exercising CERCLA Enforcement Discretion in Anticipation of Full Cost Accounting Consistent with "Statement of Federal Financial Accounting Standards No. 4" (hereinafter "EPA Guidance on Standard No. 4"), 65 Fed.Reg. 35,339 (June 7, 2000)). EPA's pre-2000 methodology did not allow it to recover all of the Superfund program's indirect costs. Tr. at 265:10-12. *See also* Exhibit 64, at 05896.

182. The General Accounting Office ("GAO"), the EPA Office of Inspector General ("OIG"), the Office of Management and Budget ("OMB"), and Congress repeatedly criticized EPA's previous methodology for failing to identify the full cost of Superfund site cleanups and, therefore, failing to allow for potential recovery of all indirect costs. Tr. at 265:3-14. *See also* Exhibit 64, at 05896; Exhibit 415 at 05941 (GAO Report).

183. In 2000, EPA revised its methodology to employ a "full cost" methodology for indirect costs, based on the guidance in Standard No. 4. Tr. at 267:8-10, 266:13-19. *See also* Exhibit 1058, at 06359; Exhibit 64, at 05896-97. A full cost methodology identifies all appropriate indirect costs to a product. Tr. at 265:20-25.

184. The revised methodology allocates indirect costs to Superfund sites based on the total costs of cleaning up the sites. Tr. at 267:11-13. To compute its indirect cost rate, EPA identifies its total direct Superfund site expenditures by region and allocates indirect costs over that amount to produce a percentage. The allocation is the means to reflect the relationship of indirect costs to direct expenditures for the Superfund program. *See* Tr. at 267:14-18. To determine indirect costs attributable to an individual Superfund site, that percentage is then multiplied by total direct costs for the individual site. Tr. at 267:19-21. *See also* Exhibit 64, at 05895.

185. Under the revised methodology, there are four steps to calculate EPA's indirect costs for a particular Superfund site: 1) identify the pool of indirect costs for Superfund sites within each EPA region; 2) identify the allocation base, or the total amount of site-specific direct costs incurred within each EPA region; 3) compute the indirect rate; and, 4) apply the indirect rate to the particular Superfund site in question. Tr. at 268:4-7, 269:13-15, 271:15-17, 272:16-21.

186. The indirect cost pool for the Superfund program includes indirect costs such as rent, electricity, training, management and supervision of employees, and the management and implementation of the Superfund program as a whole. Tr. at 268:4-13. EPA's direct costs and EPA's indirect costs associated with other programs besides Superfund, such as EPA's water program, are excluded from the indirect cost pool. Tr. at 268:14 to 269:1. There is a different indirect cost pool for each region within EPA. Tr. at 269:2-12.

187. The allocation base is the mechanism used to allocate the direct costs associated with the Superfund program to the program's output, or in this case, Superfund activity. Tr. at 269:16-18, 269:22 to 270:20. Under EPA's revised methodology, the allocation base is total site-specific costs. Tr. at 269:19-21.

188. Total site-specific costs is a reasonable basis for allocating direct costs because it reflects the magnitude and complexity of all of the Superfund Program's activities at contaminated sites. Tr. at 270:25 to 271:11.

189. To compute the indirect rate, EPA takes the indirect cost pool and divides it by the allocation base to produce a percentage. Tr. at 271:21 to 272:4. A separate rate for each fiscal year is generated for each regional office within EPA, and that rate applies to all sites in that region. Tr. at 272:14-15.

190. To determine the amount of indirect costs charged to a particular Superfund site, EPA multiplies the indirect rate percentage by the total direct costs for that site. Tr. at 272:16-21.

(a) EPA'S REVISED INDIRECT COST METHODOLOGY SATISFIES STANDARD 4

191. EPA's revised indirect methodology complies with the five requirements of Standard No. 4, because the agency has 1) reported the costs of its Superfund activities on a regular basis; 2) identified organizations that produce major products or services; 3) identified the full costs of producing those products or services; 4) identified inter-entity costs, or costs from other federal organizations that provide products or services to the EPA; and 5) provided a means of identifying all of the agency's costs so that they can be assigned to outputs. Tr. at 282:2-25, 283:16-19, 588:6-12; Exhibit 415, at 05943-49.

192. EPA's revised methodology is an appropriate accounting measure of its indirect costs charged to Superfund sites, including the Libby Asbestos Site. Tr. at 293:12-19, 588:9-12.

(b) DEFENDANTS' CHALLENGES TO EPA'S REVISED METHODOLOGY ARE UNAVAILING

193. Defendants generally challenge EPA's revised methodology based on their contention that the revised methodology does not comply with generally accepted accounting principles. Tr. at 464:23 to 465:10, 472:3-12, 484:6-9, 485:7-10, 488:7-10, 488:22-24, 489:6-10. I find Defendants' arguments unavailing and, specifically, find that the testimony of Defendants' expert Dale R. Jensen is not credible.

i. THERE IS NO ONE-SIZE-FITS-ALL APPROACH TO INDIRECT COST METHODOLOGIES

194. Standard No. 4 is broad to allow federal agencies maximum flexibility in developing costing methodologies that best suit their agencies. Exhibit 1058, at 06358. This is because different agencies have different objectives, and, therefore, their costing methodologies may vary. Tr. at 589:12 to 590:5.

195. No formal conclusions can be drawn from the fact that EPA and ATSDR use different methodologies to calculate indirect costs. Tr. at 589:12 to 590:1.

ii. IT IS APPROPRIATE FOR EPA TO INCLUDE INDIRECT COSTS OF OTHER AGENCIES AND CONTRACTORS IN ITS ALLOCATION BASE

196. It is appropriate for EPA to include the indirect costs of those who have performed services for EPA, and their contractors or subcontractors, in the Superfund program's allocation base under the revised indirect cost methodology. Tr. at 573:21 to 575:20. All of the Superfund program's

costs, including the indirect costs of those who have performed services for the Superfund program, are necessary to produce the cleanup of contaminated sites. *Id.* Consequently, these costs are appropriately included as part of the total cost of activity at the site. *Id.*

iii. EPA'S OUTPUTS ARE PROPERLY DEFINED

197. Standard No. 4 states that outputs should represent the products and services being provided by the government organization. Tr. at 262:8-13, 579:9-13. *See also* Exhibit 1058, at 06388-89.

198. The Superfund program's outputs are primarily the cleanup of contaminated sites. Tr. at 262:14-17. Management and oversight are part of cleaning up contaminated sites. Tr. at 262:23 to 263:11.

199. Accordingly, EPA's revised indirect cost methodology complies with Standard No. 4's requirement that the outputs of the Superfund program be properly defined. Tr. at 579:2-19, 580:7-14.

iv. EPA'S INDIRECT COST POOL IS ALLOCATED BASED ON BENEFITS RECEIVED

200. Standard No. 4 states that for indirect costs, it is preferable that they be allocated to outputs on a cause-and-effect basis. Tr. at 580:15 to 582:14. *See also* Exhibit 1058, at 06407. Identifying the outputs of an organization will result in good allocation of indirect costs. Tr. at 263:12-20.

201. As discussed above, the outputs of EPA's Superfund program are primarily the cleanup of contaminated sites. Tr. at 262:14-17. Under the revised methodology, EPA uses total site-specific expenditures, or total direct costs, to represent the output of EPA's Superfund program. Tr. at 269:19-21.

202. Because labor hours are a small part of the total output of the Superfund program, allocating EPA's indirect cost pool over a base of labor hours would not reflect the benefits received because it does not best represent total activity of the Superfund program. Tr. at 582:25 to 583:9.

203. EPA's revised methodology for calculating indirect costs does not distort the allocation base because total site-specific expenditures best represent the total activity of the Superfund program, not labor hours. Tr. at 595:21 to 596:6.

204. Because EPA's indirect cost pool is allocated on a cause-and-effect basis, it complies with Standard No. 4. Tr. at 584:6-10.

v. EPA MEASURES THE FULL COST OF ITS OUTPUTS

205. Standard No. 4 states that government entities should report the full costs of outputs. *See* Exhibit 1058, at 06388. As applied to the Superfund program, Standard No. 4 requires EPA to measure its full cost of cleaning up contaminated sites.

206. EPA's revised methodology for calculating indirect costs does not include the costs that third party potentially responsible parties ("PRPs") incur cleaning up contaminated sites. Tr. at 274:5-8, 584:16-24. Standard No. 4 requires that the EPA measure only the internal costs of its outputs, or, in the context of Superfund, only the costs that the agency incurs in cleaning up contaminated sites. *See* Exhibit 1058, at 06388.

207. It would be difficult and impractical for the EPA to include PRP cleanup costs in measuring outputs. Tr. at 274:9-19. Even if the agency were able to obtain and track PRP costs, including them in the allocation base would not be a good measure of EPA's outputs because PRP costs go beyond that which the agency has incurred. Tr. at 585:13-24. Such a measure of outputs would be inconsistent with Standard No. 4. *Id.* This is true even though indirect costs

will vary significantly under EPA's revised indirect cost methodology depending upon whether EPA or PRPs conduct a cleanup. Tr. at 279:15 to 281:1.

208. EPA's revised methodology for calculating indirect costs measures the full internal cost of the outputs of the Superfund program. Therefore, the methodology complies with Standard No. 4. Tr. at 585:25 to 586:3.

vi. EPA'S INDIRECT COST POOL IS HOMOGENEOUS

209. Standard No. 4 states that costs that have a similar cause-and-effect relationship to outputs can be grouped into cost pools. *See* Exhibit 1058, at 06407. In accounting terminology, this concept is known as "homogeneity." *Id.*

210. Homogeneity can be achieved if all of the activities in an indirect cost pool are similar or if the activities in an indirect cost pool are disparate, as long as their relationship to the output is similar. Exhibit 1058 at 06407; Tr. at 587:1-8.

211. For example, though program costs such as finance, personnel, and legal may be considered disparate, they are homogeneous from an accounting perspective if they have a similar cause-and-effect relationship to the outputs, or, here, the cleanup of contaminated sites. Tr. at 587:15-20.

212. The elements that make up EPA's indirect cost pool under the Superfund program have a similar relationship to outputs under the revised methodology. Tr. at 587:9-20. Therefore, EPA's indirect cost pool is homogeneous and complies with Standard No. 4. Tr. at 587:21 to 588:5.

(c) DEFENDANTS' COST EXPERT DOES NOT KNOW WHAT METHODOLOGY EPA SHOULD USE

213. Defendants' accounting expert Dale Jensen does not know what methodology the EPA should use to recover its indirect costs. Tr. at 553:16-19.

(d) INDEPENDENT EVALUATORS HAVE APPROVED EPA'S REVISED INDIRECT COST METHODOLOGY

214. Before publishing its revised methodology for calculating indirect costs, EPA sought independent evaluations of the methodology from the accounting firm of KPMG and from the GAO. Tr. at 285:8-18. EPA sought these reviews because the previous methodology had been criticized for years, and the EPA wanted third party evaluations of the revised methodology before it was issued. Tr. at 286:5-15, 290:15-21.

i. THE GAO REPORT

215. The GAO concluded that EPA's revised indirect methodology complies with each specific accounting standard set forth in Standard No. 4. Tr. at 288:19-25. *See also* Exhibit 415, at 05943-49.

216. The GAO noted that EPA's revised methodology is designed to provide an accurate accounting of the full costs of Superfund site response for recovery from responsible parties. Tr. at 286:16-19, 286:21 to 287:2. *See also* Exhibit 415, at 05938-39.

217. The GAO also concluded that EPA's use of an allocation base composed of total site-specific expenditures in its revised indirect methodology is appropriate. Tr. at 287:3-5, 287:24 to 288:1. *See also* Exhibit 415 at 05939.

218. The GAO found that compared to EPA's previous methodology, the revised methodology better reflects the true indirect costs associated with site cleanups. Tr. at 288:7-15. *See also* Exhibit 415, at 05951.

ii. KPMG REPORT

219. The accounting firm KPMG reviewed EPA's revised indirect methodology and concluded that it both complies with Standard No. 4 and provides a better process for

estimating and allocating total Superfund indirect costs. Tr. at 291:1-18. *See also* Exhibit 416, at 05973-74, 05979.

220. KPMG also concluded that EPA's revised indirect methodology was simpler, easier to understand, more thorough and more complete than the previous methodology. Tr. at 291:1-18. *See also* Exhibit 416, at 05979.

(2) APPLICABLE INDIRECT COST RATE

221. To determine the total indirect costs charged to a specific Superfund site, EPA multiplies the indirect rate percentage by the total direct costs associated with the specific site.

222. EPA's indirect rate is determined annually. Tr. at 277:7-8. Indirect cost rates are based upon actual expenditures at Superfund site for a particular year. Tr. at 319:1-6. The actual indirect cost rate cannot be determined for any given year until all costs for that year have been incurred and the final rate is calculated. Tr. at 317:3-15. The process of finalizing an indirect rate includes performing a computation, reviewing that computation to ensure that the right amounts are included or excluded, and preparing a memorandum that announces the rate for a particular year. Tr. at 319:12 to 320:9.

223. EPA incurs indirect costs on an on-going basis during a fiscal year. Tr. at 318:11-12. EPA establishes a "provisional" indirect rate to identify indirect costs until the actual indirect rate for a particular fiscal year can be computed and finalized. Tr. at 277:9-15, 318:9-22, 319:9-11.

224. The provisional indirect rate for a fiscal year for which an actual indirect rate has not been finalized is the actual indirect rate for the most recent fiscal year for which such a rate has been finalized. Tr. at 317:18-23.

225. Use of provisional rates until actual rates are issued is standard practice by government agencies and in the private sector. Tr. at 277:16-18, 320:24 to 321:5.

226. The indirect rate for Fiscal Year 1999 is 35.53%. At the time of trial, EPA had not finalized actual indirect rates for Fiscal Years 2000 and 2001; as a result, the provisional rate for both fiscal years is the Fiscal Year 1999 indirect rate, or 35.53%. Tr. at 278:6-9, 278:15-23.

227. The United States has informed the defendants and the Court that the indirect rates for the two fiscal years were finalized shortly after trial, and that the actual rate for Fiscal Year 2000 is 38.84 % and the actual rate for Fiscal Year 2001 is 34.28%. *See* United States' Notice of EPA Issuance of Actual Indirect Cost Rates for Fiscal Years 2000 and 2001, filed April 14, 2003, at 1.

228. Defendants object to using the actual rates for Fiscal Year 2000 and 2001 because they were not introduced at trial. The United States does not seek to use the actual rates, but proposes using the provisional rate. Because using the provisional rate will inure to Defendants' benefit, I will apply the provisional rate for Fiscal Years 2000 and 2001.

(3) EPA'S INDIRECT COSTS AT THE LIBBY SITE

229. A cost recovery package that documents costs that EPA incurred at the Libby Asbestos Site through December 31, 2001, was generated from EPA's IFS and SCORPIOS systems. Tr. at 255:13-25, 257:7-10, 257:15 to 258:6. *See also* Exhibit 1128, at 08170-71.

230. The Libby Asbestos Site Cost Recovery Package documents that $43,602,396.16 in direct and indirect costs were incurred at the Libby Asbestos Site through December 31, 2001. *See* Exhibit 1128, at 08171. However, some costs have been added and others deleted from the amount set forth in the Libby Asbestos Site Cost Recovery Package to reflect the results of negotiations between the parties. Tr. at 292:7-16, 547:25 to 548:3. The total amount of EPA's *direct* costs incurred through December 31, 2001, that is sought in this case is $31,866,663.83.

231. EPA's total indirect costs associated with the Libby Asbestos Site through December 31, 2001, can be obtained by multiplying the provisional indirect cost rate of 35.53% by the amount of EPA's Libby Asbestos Site direct costs, or $31,866,663.83. The result is $11,322,225.66.

d. Mistake In Initial Cost Summary Package for Site

232. There was a mistake in the initial cost summary package for the Libby Asbestos Site: a portion of ATSDR's costs were included in EPA's cost summary package twice. Tr. at 259:6-12. This occurred because the EPA funded directly, through a site-specific inter-agency agreement, part of ATSDR's work conducted at the Libby Asbestos Site. Tr. at 260:13-22. It is rare that EPA enters into site-specific IAGs with ATSDR for work at Superfund sites. Tr. at 260:3-8, 260:23-24, 261:12-15.

233. The EPA identified the mistake related to the double-count of ATSDR's costs and notified the Court and Defendants before trial. Tr. at 547:2-4. *See also* United States' Motion To Partially Withdraw Motion For Partial Summary Judgment On Response Costs And On Defendants' Second Affirmative Defense As It Relates To ATSDR Costs (filed December 2, 2002).

234. The ATSDR costs presented at trial are correct. Tr. at 261:16-19. They do not come from EPA's SCORPIOS system, but rather directly from ATSDR in the form of an ATSDR cost recovery package. Tr. at 547:14-24.

235. The EPA has taken steps to keep a similar mistake from happening in the future, including notifying regional Superfund accountants to be aware of site-specific IAGs with ATSDR and how those costs are tracked. Tr. at 261:20 to 262:3.

236. Defendants point to this double-counting error and other billing errors to claim they have rebutted the presumption of accurate accounting. However, all of the errors Defendants rely on were corrected before trial.

237. Defendants were not able to point to any existing errors in EPA's account and, thus, have failed to rebut the presumption of accurate accounting.

238. I find by a preponderance of evidence that EPA has accurately accounted for $31,866,663.83 in direct costs related to the Libby Asbestos Site.

II. CONCLUSIONS OF LAW

A. CERCLA LIABILITY AND DEFENSES

1. GRACE-CONN. AND KDC ARE LIABLE PARTIES UNDER CERCLA

239. Grace-Conn. is liable under CERCLA for the cleanup of asbestos at the Libby Asbestos Site properties. Those properties are the Mine Site, the former Screening Plant, the Flyway, the Bluffs, the former Export Plant, the Libby High School, the Libby Middle School, Plummer Elementary School, Kootenai Valley Christian School, Champion Haul Road, Rainy Creek Road, and the following residential or commercial properties in and near Libby, Montana: Beaulia, Belangie, Bowker, Brown (653 Flower Creek), Brown (346 Granite), Brownlee, Burshia, Cady, Calhoun, Cote, Dennis, Downey, Drury, Epperson, Fuhlendorf, Geer, Graham, Hebenstreit, Hilliard, Hoff, Jacabson, Jeresek, Jordon, Kootenai Angler, Long, McCulley, Mohr, Munro, Nixon, Nores, Parker (1421 Main), Parseau, Peterson, Phillips, Powers (2297 Kootenai River Rd.), Powers (2293 Kootenai River Rd.), Ray, Rice, Rodgers, Sanderson (123 Hamann), Sanderson (4241 Hwy 37), Sanderson (112 Oak), Schenck, Skramstad, Siefke, Smith, Spencer (500 Jay Effar), Spencer (229 Pinewood), Spencer Law Firm, Struck, Stubbs, Temple, Visger, Westfall, Wilkes (461 Parmenter), Wilkes (600 Ave. B). 42 U.S.C. § 9607(a).

240. KDC is liable under CERCLA for the cleanup of asbestos at the Libby Asbestos Site properties that KDC currently owns, namely the Mine Site, Kootenai Bluffs and Kootenai Flyway. 42 U.S.C. § 9607(a)(1).

2. NEITHER GRACE-CONN. NOR KDC ARE ENTITLED TO CERCLA'S AFFIRMATIVE DEFENSES

241. CERCLA provides that there shall be no liability "for a person otherwise liable who can establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages resulting therefrom were caused solely by—(1) an act of God; (2) an act of war; (3) an act or omission of a third party ...; or (4) any combination" thereof. 42 U.S.C. § 9607(b). These are the only affirmative defenses CERCLA permits. *See, e.g., Town of Munster v. Sherwin-Williams Co.*, 27 F.3d 1268, 1270 (7th Cir. 1994); *California Dept. of Toxic Substances Control v. Alco Pacific, Inc.*, 217 F. Supp. 2d 1028, 1038-40 (C.D. Cal. 2002).

242. The Parties stipulate that the releases or threatened releases of asbestos at the properties which form the Libby Asbestos Site were not caused solely by an act of war, or an act or omission of a third party. Revised Agreed Facts 52-53.

243. The presence of asbestos in Libby "is not a 'natural phenomenon of an exceptional, inevitable, and irresistible character' and, therefore, is not an appropriate Act of God defense." Order of December 19, 2002, at 22. While the Court's December 19, 2002, Order addressed only KDC's act of God defense, the same reasoning applies to Grace-Conn. Moreover, Grace-Conn. did not present its act of God defense at trial. Accordingly, Grace-Conn.'s act of God defense must fail.

3. GRACE-CONN.'S CONTENTION THAT EPA VIOLATED CERCLA'S LIMITATION ON RESPONDING TO NATURALLY-OCCURRING SUBSTANCES FAILS

244. Subject to exceptions that do not apply here, the NCP provides that "a removal or remedial action ... shall not be undertaken in response to a release: (1) Of a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena, from a

location where it is naturally found." 40 C.F.R. § 300.400(b). This limitation on response is derived from CERCLA itself. *See* 42 U.S.C. § 9604(a)(3)(A).

245. Defendants contend that EPA responded to naturally-occurring asbestos when it excavated portions of the Parker parcel to a depth of over 12 feet, thereby violating the limitation on response found in CERCLA and the NCP. *See* Tr. at 5:11-18.

246. Defendants' argument is impermissible under the law-of-the-case doctrine for two independent reasons. First, the Court has already determined that EPA's response action was not inconsistent with the NCP in its ruling granting the United States' motion for partial summary judgment on Defendants' Third Affirmative Defenses. Order of December 19, 2002, at 9-14. A partial summary judgment ruling is law of the case and should not be changed in subsequent proceedings "without good reason." *Carr v. O'Leary*, 167 F.3d 1124, 1126 (7th Cir. 1999). Defendants' have not presented good reason to reconsider this finding.

247. Second, in opposing the United States' motions for partial summary judgment on liability, both Defendants contended that EPA's response action in Libby violated 42 U.S.C. § 9604(a)(3)(A). The Court rejected this contention with respect to KDC, stating: the record before the Court establishes that the EPA responded to asbestos and asbestos-contaminated vermiculite that was a by-product of vermiculite processing. This does not qualify as "a naturally occurring substance in its unaltered form, or altered solely through naturally occurring processes or phenomena." 42 U.S.C. § 9604(a)(3)([A]). Therefore KDC has failed to point to material facts that it is entitled to assert ... [a] naturally-occurring substance defense. Order of December 19, 2002, at 22. The Court's conclusion as to KDC also applies to Grace-Conn., and is law of the case here. *See Carr*, 167 F.3d at 1126.

248. Even aside from the procedural arguments, Grace-Conn.'s naturally-occurring substance argument lacks merit.

Defendants have failed to show by a preponderance of the evidence that the response action involved a "naturally occurring substance in its unaltered form." In fact, the evidence presented at trial demonstrates that EPA's response actions in Libby were undertaken in response to releases and threats of releases associated with mined and processed vermiculite, not to a "naturally occurring substance in its unaltered form." Consequently, EPA's response action does not conflict with the limitation on responses set forth at 42 U.S.C. § 9604(a)(3)(A).

249. Moreover, the evidence presented at trial demonstrates that Grace-Conn.'s own mining activities exposed asbestos to the elements. This increased the amount of asbestos in runoff that deposited on the Screening Plant property. This is not naturally-occurring asbestos. *See United States v. Iron Mountain Mines, Inc.*, 812 F. Supp. 1528, 1548 (E.D. Cal. 1992) ("To the extent that mining may have exposed more ore to weather, it may have non-naturally increased the amount of [hazardous substances] released into the environment."). So long as EPA's response action was undertaken in response to releases and threats of releases associated with mined and processed vermiculite, the alleged incidental removal of some naturally occurring asbestos is not inconsistent with the NCP.

250. Grace-Conn.'s contention that EPA's excavation of soils to a depth of as much as 20 feet on a portion of the Parker property (once part of the Screening Plant) must have removed naturally-occurring asbestos is not compelling. The evidence presented at trial demonstrates that this area was most likely a borrow pit or depression that had been filled with processed vermiculite. Such material is not naturally occurring in its unaltered form. EPA's removal of this material at significant depth is not arbitrary and capricious, particularly in light of EPA's understanding that the Parker family intends to build a home in this area.

B. RECOVERABILITY OF COSTS

251. CERCLA authorizes the United States to recover from liable parties "*all costs* of removal or remedial action incurred by the United States Government ... not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(A) (emphasis added). CERCLA also authorizes the United States to recover "the costs of any health assessment or health effects study carried out under section 9604(i)." 42 U.S.C. § 9607(a)(4)(D).

1. UNDISPUTED COSTS

252. The Parties have stipulated to the adequacy of documentation for $32,972,125.73 in costs. Grace-Conn. is liable under CERCLA for each of the properties currently at issue, as discussed above. Moreover, this Court has rejected Grace-Conn.'s contention that EPA's cleanup action was inconsistent with the NCP. *See* Order of December 19, 2002, at 14, 22. Accordingly, Grace-Conn. is liable for $32,972,125.73 in undisputed costs.

2. ATSDR'S COSTS ARE RECOVERABLE.

a. ATSDR'S ACTIVITIES ARE HEALTH EFFECTS STUDIES OR REMOVAL ACTIONS

253. ATSDR incurred costs in conducting the following activities related to the Libby Asbestos Site: (i) the Medical Testing Program, (ii) the Mortality Analysis; (iii) the Pilot Study of Environmental Cases; (iv) the CT Study; (v) health education; (vi) the tracing project/Tremolite Asbestos Registry; and (vii) the substance-specific health consultation on tremolite asbestos.

254. Each of these activities was either a "health effects study," a "removal action," or both. Costs for both types of activities are recoverable under CERCLA. 42 U.S.C. § 9607(a)(4)(D); (a)(4)(A).

255. A "removal action" is defined in CERCLA as:

> the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary [to take] in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, *or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare* or to the environment, which may otherwise result from a release or threat of release.

42 U.S.C. § 9601(23)(emphasis added). A removal action is a type of response action. 42 U.S.C. § 9601(25).

256. Though not specifically defined in CERCLA, ATSDR has promulgated regulations defining "health effects study." These regulations, and ATSDR's interpretation of them, must be accorded considerable weight. *See United States v. Mead Corp.*, 533 U.S. 218, 227, 121 S.Ct. 2164, 150 L.Ed.2d 292 (2001) (agency interpretation of a statutory provision that it is charged with implementing is entitled to deference); *League of Wilderness Defenders/Blue Mountains Biodiversity Project v. Forsgren*, 309 F.3d 1181, 1183 (9th Cir. 2002) (agency's interpretation of its own regulations is entitled to deference unless plainly erroneous, inconsistent with the regulation, or based on an impermissible construction of the governing statute).

257. "Health effects study" is defined as:

> research, investigation, or study performed by ATSDR or other parties pursuant to an agreement with ATSDR to evaluate the health effects of exposure to hazardous substances at specific sites. This term includes, but is not limited to, epidemiological studies, exposure and disease registries, and *health surveillance*

> *programs*. This term does not include health assessments.

42 C.F.R. § 90.2 (emphasis added).

258. As part of the Medical Testing Program, ATSDR administered pulmonary function tests and chest x-rays to thousands of current and former Libby residents to determine whether they individually, and whether Libby residents generally, suffered adverse health effects from exposures to asbestos. The Medical Testing Program is a "health effects study," as it was an investigation or study "to evaluate the health effects of exposure to hazardous substances at particular sites." 42 C.F.R. § 90.2.

259. Defendants argue that the Medical Testing Program was a health surveillance program. This distinction, however, is irrelevant, as a health surveillance program is by definition a health effects study. 42 C.F.R. § 90.2 (defining "health effects study" to specifically include health surveillance programs).

260. Even if health surveillance programs did not fall under the definition of health effects studies, the Medical Testing Program was an action "necessary to prevent, minimize, or mitigate damage to the public health and, therefore, the costs are recoverable under 42 U.S.C. § 9607(a)(4)(A)." *See Hanford Downwinders Coalition, Inc. v. Dowdle,* 71 F.3d 1469, 1475-80 (9th Cir. 1995) (surveillance program a response action).

261. The United States is entitled to recover the costs of "health effects studies." 42 U.S.C. § 9607(a)(4)(D). Accordingly, the full costs of the Medical Testing Program are recoverable.

262. Similarly, the Mortality Analysis, Pilot Study of Environmental Cases, CT Study, and tracing project are each health effects studies. 42 U.S.C. § 9604(i)(4). The full costs of each of these activities are recoverable under CERCLA. 42 U.S.C. § 9607(a)(4)(D).

263. ATSDR's Libby-based health education activities and the substance-specific health consultation on tremolite asbestos were undertaken as part of the government's "removal action" at the Libby Asbestos Site. The full costs of these activities are recoverable as response costs under CERCLA. 42 U.S.C. § 9607(a)(4)(A).

b. ATSDR'S SEQUENCING OF ITS HEALTH-RELATED ACTIVITIES WAS APPROPRIATE

264. Defendants contend that ATSDR cannot recover the costs of its health-related activities in Libby because they were improperly sequenced. Defendants' argument is apparently based on two CERCLA provisions. First, Defendants contend that CERCLA requires ATSDR to conduct a health assessment before undertaking any other health-related activities. Second, Defendants contend that CERCLA prevents ATSDR from conducting a medical surveillance program without first conducting a health assessment, an epidemiological study or exposure registry. Defendants' arguments misconstrue both provisions of CERCLA.

265. CERCLA requires ATSDR to perform a health assessment within a statutorily prescribed period of time, usually within one year of the date a site is proposed for listing on the National Priorities List ("NPL"). 42 U.S.C. § 9604(i)(6)(A). CERCLA does not require that a health assessment be performed before other health-related studies can be conducted. Thus, CERCLA does not prohibit ATSDR from conducting health-related activities before NPL listing or before publication of the health assessment that must be concluded within one year of NPL listing.

266. Similarly, CERCLA requires ATSDR to initiate a health surveillance program when it determines, based on a health assessment, epidemiological study or exposure registry, that there is a significant increased risk of adverse health effects resulting from an exposure to hazardous substances. 42 U.S.C. § 9604(i)(9). The statute does not

provide that a health surveillance program is authorized based only on information contained in a health assessment, epidemiological study or exposure registry. CERCLA allows ATSDR to conduct medical surveillance programs at its discretion in other circumstances. *See, e.g.*, 42 U.S.C. § 9604(i)(1)(E). Accordingly, even assuming the Medical Testing Program is a health surveillance program, it is not required to be preceded by a health assessment, epidemiological study or exposure registry.

267. Defendants' interpretation also ignores language in ATSDR's annual appropriation in which Congress clearly demonstrates that a health assessment need not be done first:

> notwithstanding any other provision of law, in lieu of performing a health assessment under section 104(i)(6) of CERCLA [42 U.S.C. § 9604(i)(6)], the Administrator of ATSDR may conduct other appropriate health studies, evaluations or activities, including, without limitation biomedical testing, clinical evaluations, medical monitoring, and referral to accredited health care providers.

Appropriations, 2000—Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies, Pub. L. No. 106-74, 113 Stat. 1047. *See also* Departments of Veterans Affairs and Housing and Urban Development--Appropriations, Pub. L. No. 106-377, 114 Stat. 1441; Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 2002, Pub. L. No. 107-73, 115 Stat. 651. Accordingly, Congress' expression on the sequencing of health activities in ATSDR's appropriations language contradicts Defendants' interpretation.

268. Defendants' sequencing arguments also run contrary to ATSDR's interpretation of CERCLA in its regulations. First, ATSDR's regulations expressly provide that the

agency may conduct health effects studies before completing a health assessment:

> ATSDR may decide, in its discretion, based upon the results of a health assessment or other available information, to conduct a health effects study for a particular site or sites. *Such a decision may, in appropriate circumstances, be made prior to the completion of a health assessment for a site or sites.*

42 C.F.R. § 90.7(a) (emphasis added). Second, the preamble to ATSDR's regulations makes clear that ATSDR's response to public health threats is not confined to the inflexible, formalistic sequence advanced by Defendants:

> Two comments suggested that ATSDR adhere strictly to the sequence of health assessments and health effects studies set forth in section 104(i) of CERCLA. Among other things, section 104(i)(6) directs ATSDR to conduct health assessments at all sites on, or proposed for inclusion on, the NPL, as well as authorizes the Agency to conduct health assessments in response to requests from the public. This section specifies that one purpose of a health assessment is to determine the need for health effects studies, such as an epidemiological study, registry, or health surveillance program. Section 104(i)(7) furthermore states that on the basis of a health assessment, ATSDR may decide to conduct a pilot study to determine the desirability of conducting a full-scale epidemiological or other health effects study.
>
> ATSDR will generally follow the sequential approach outlined in sections 104(i)(6), (7), (8) and (9) of CERCLA (health assessment, and where appropriate, followed by a pilot study, epidemiological study, registry, and health surveillance program). However, *ATSDR*

> *recognizes that instances arise where the public health is not served by a strict adherence to this sequential approach. For instance, circumstances at a particular site may necessitate the immediate commencement of a pilot study or other activity prior to the completion of a health assessment for the site. This approach is consistent with the language and intention of CERCLA. ATSDR does not interpret the sequential approach set forth in section 104(i) of CERCLA to constitute the exclusive manner in which ATSDR is to fulfill its public health responsibility.* ATSDR generally will follow this sequential approach; however, it is necessary to retain flexibility in responding to emergency or other unique circumstances in an appropriate manner.

55 Fed.Reg. 5136, 5137 (Feb. 13, 1990) (preamble to 42 C.F.R. Part 90) (emphasis added).

269. ATSDR's interpretation of a statutory provision that it is charged with implementing is entitled to deference. *See Mead*, 533 U.S. at 227, 121 S.Ct. 2164. Defendants have not established that ATSDR's interpretation is clearly erroneous or otherwise contrary to law.

270. ATSDR is authorized under 42 U.S.C. § 9604(i)(1)(E) to conduct medical testing, such as that performed at the Libby Asbestos Site as part of the Medical Testing Program.

c. ATSDR'S COSTS ARE ADEQUATELY DOCUMENTED

271. Defendants contend that the United States is not entitled to recover any of ATSDR's costs because they are not adequately documented. The United States has provided extensive documentation of the costs ATSDR has incurred. The documentation compares to that found sufficient to prove CERCLA response costs cases in the Ninth Circuit and elsewhere. This documentation establishes a *prima facie* case that the United States is

entitled to its response costs. *See United States v. Hardage*, 982 F.2d 1436, 1443 (10th Cir. 1992). The burden then shifts to Defendants to rebut the costs. *See id.* Defendants have not met this burden.

(1) DEFENDANTS BEAR THE BURDEN OF PROVING ANY ALLEGED INCONSISTENCY WITH THE NCP

272. Once the United States establishes its *prima facie* case on CERCLA liability, the burden shifts to the defendant to prove the response action was inconsistent with the NCP. *United States v. Chapman*, 146 F.3d 1166, 1170 (9th Cir. 1998); *Washington State Dep't of Transp. v. Washington Natural Gas Co.*, 59 F.3d 793, 800 (9th Cir. 1995). When a CERCLA defendant claims the United States cannot recover its costs because of an inconsistency with the NCP, the defendant must prove the inconsistency exists and the amount of additional costs that were incurred as a result of the inconsistency. *See United States v. Findett Corp.*, 220 F.3d 842, 849 (8th Cir. 2000); *United States v. Burlington N. R.R. Co.*, 200 F.3d 679, 695 (10th Cir. 1999) (defendant must prove inconsistency with NCP led to "demonstrable excess costs"); *Chapman*, 146 F.3d at 1170-71; *California v. Neville Chem. Co.*, 213 F. Supp. 2d 1134, 1138-41 (C.D. Cal. 2002). A CERCLA defendant cannot challenge the adequacy of the government's cost documentation by raising "vague challenges to the validity of those costs based on the government's evidence," but instead must offer specific evidence to counter the government's documentation of its direct costs. *United States v. R.W. Meyer, Inc.*, 889 F.2d 1497, 1508 (6th Cir. 1989).

(2) COURTS HAVE HELD A BROAD RANGE OF COST DOCUMENTS SUFFICIENT TO ESTABLISH A PRIMA FACIE CASE

273. The NCP contains a general admonition to complete and maintain documentation to support cost recovery actions:

> During all phases of response, the lead agency shall complete and maintain documentation to support all actions taken under the NCP and to form the basis for cost recovery. *In general,* documentation shall be sufficient to provide the source and circumstances of the release, the identity of responsible parties, the response action taken, accurate accounting of federal, state or private party costs incurred for response actions, and impacts and potential impacts to the public health and welfare and the environment.

40 C.F.R. § 300.160(a)(1) (1990) (emphasis added).

274. This provision does not establish prescriptive standards for the content of cost documents. Generally, a cost is inconsistent with the NCP only if the response action itself was inconsistent with the NCP. *See, e.g., Hardage,* 982 F.2d at 1443; *United States v. Kramer,* 913 F. Supp. 848, 862 (D.N.J.1995). 40 C.F.R. § 300.160 does not impose any additional documentation requirements on the government, beyond what is sufficient to persuade the court that the costs have been proven by a preponderance of the evidence. Indeed, courts that have examined this provision of the NCP have recognized that it "does not contain any specific standards concerning the documentation of costs." *United States v. Chrysler Corp.,* 168 F. Supp. 2d 754, 769 (N.D. Ohio 2001); *United States v. Findett Corp.,* 75 F. Supp. 2d 982, 991 (E.D. Mo. 1999), *aff'd,* 220 F.3d 842 (8th Cir. 2000).

275. The NCP requires only that "in general" documentation be sufficient to provide an accurate accounting of costs incurred. Notably, the NCP does not define "accurate accounting" or otherwise elaborate on what is meant by "sufficient." *Neville,* 213 F. Supp. 2d at 1138; *Chrysler,* 168 F. Supp. 2d at 769; *Findett,* 75 F. Supp. 2d at 991.

276. In the absence of regulatory guidance on the meaning of "accurate accounting," courts have applied civil

evidentiary standards to assess the adequacy of cost documentation supporting a CERCLA cost recovery claim, rather than imposing any additional burden. In *Chapman*, for example, the Ninth Circuit affirmed a grant of summary judgment for the United States in a CERCLA case. Among other things, the Court found that no genuine issue of material fact existed as to whether EPA had "adequately documented" the costs it had incurred. *Chapman*, 146 F.3d at 1171. The Court specifically referenced the "detailed cost summaries" the government had submitted, the "extensive documentation of costs in the form of time sheets and payroll documents" and "declarations from EPA staff, attorneys, accountants, and supervisors attesting to the work they performed and the time spent on the Chapman site." *Id.*

277. The same approach has been applied in other Circuits. In *Findett*, the Eighth Circuit upheld a grant of summary judgment on CERCLA response costs, finding "detailed cost summaries, supporting data, and other competent evidence" were sufficient to support the government's cost claim. *Findett*, 220 F.3d at 849. Similarly, the Tenth Circuit has upheld a grant of summary judgment on CERCLA response costs where the costs were documented by affidavits of government employees responsible for maintaining cost data supported by "summaries of cost data." *Hardage*, 982 F.2d at 1442-43. *See also United States v. Chromalloy Am. Corp.*, 158 F.3d 345, 352 (5th Cir. 1998) (concluding that "detailed cost summaries" provided an adequate basis to find EPA's oversight costs reasonable and necessary).

278. Numerous district courts have taken the same approach to assessing the adequacy of CERCLA cost documentation. *See, e.g., Neville*, 213 F. Supp. 2d at 1138-41 (time sheets sufficient to document payroll costs; travel expense reports and related documentation sufficient to document travel costs; contractor invoices sufficient to document contract costs); *Chrysler*, 168 F. Supp. 2d at 769, 774 (contractor vouchers/invoices, invoice approval forms, and Treasury schedules adequately document contractor

costs); *United States v. Bell Petroleum Servs., Inc.*, 734 F. Supp. 771, 781 (W.D. Tex. 1990), *rev'd in part, vacated in part on other grounds*, 3 F.3d 889 (5th Cir. 1993); *United States v. Northernaire Plating Co.*, 685 F. Supp. 1410, 1415 (W.D. Mich. 1988), *aff'd sub nom., United States v. R.W. Meyer, Inc.*, 889 F.2d 1497 (6th Cir. 1989).

279. Notably, none of the cases reviewed above required the presence of any particular document or type of document in their analysis of response cost documentation. They merely required that the documentation be "adequate" or "sufficient" to support the cost claim. The plaintiff in a CERCLA cost recovery action has a range of options for proving up the amount of costs it has incurred. The nature of the documentation presented to support the cost claim will vary depending on the amount of response costs at issue, the type of documentation the plaintiff's accounting system maintains, and the extent and complexity of that documentation. Regardless of the option taken, the burden is on the CERCLA defendant to demonstrate that such documentation is inadequate once the *prima facie* case for the costs has been established. Defendants here have not done so.

280. Similarly, there is no specific standard regarding the amount of detail that must be included in cost documentation. Courts have rejected arguments that the lack of descriptive information on a time sheet or travel voucher regarding the underlying task the employee performed invalidates the documentation. *See Neville*, 213 F. Supp. 2d at 1138-40; *Bell Petroleum*, 734 F. Supp. at 781 ("failure to provide descriptive documentation does not make the Government's accounting inaccurate[;] even if it did, disallowance of costs for that reason is too harsh a sanction for the omission, if any, involved").

(3) THE UNITED STATES' EVIDENCE SATISFIES THE PREPONDERANCE OF THE EVIDENCE STANDARD AND DEFENDANTS HAVE SHOWN NO

INCONSISTENCY WITH THE NCP COST DOCUMENTATION PROVISION

281. At trial, the United States presented ATSDR's cost recovery package, which documents the costs ATSDR incurred conducting health-related activities in Libby. The documentation includes cost summaries, time sheets, contractor invoices, travel vouchers, progress reports and voluminous other information. *See generally* Exhibit 1145.

282. In addition, the United States elicited testimony from two senior ATSDR employees, the Deputy Director of the Division of Health Studies, who acted as project officer and field coordinator at the Libby Site, and the Cost Recovery Team Leader, who was responsible for preparing ATSDR's cost recovery package, to explain ATSDR's Libby activities, the agency's institutional procedures for approving and paying costs, and the preparation of the cost recovery package for the Libby Asbestos Site. The Court found these witnesses to be very credible.

283. The documentary and testimonial evidence presented was sufficient to prove by a preponderance of evidence that the United States adequately documented its costs incurred in the response action at the Libby Asbestos Site. *See, e.g., Chapman,* 146 F.3d at 1171; *Findett,* 220 F.3d at 849; *Hardage,* 982 F.2d at 1442-43.

d. DEFENDANTS' INTERPRETATION OF CERCLA'S DOCUMENTATION PROVISION HAS NOT BEEN ACCEPTED BY THE COURTS

284. Defendants contend, through their expert cost accountant Dale Jensen, that the NCP's cost documentation provision incorporates commonly accepted accounting standards and procedures applicable to documenting costs. Tr. at 442:21 to 444:3. According to Mr. Jensen, the government must compile and maintain a list of documents for its expenditures, including: 1) invoice summaries; 2) site-specific invoices which indicate costs by cost type or by

activity; 3) invoice approval forms, or other documentation of approval, signed by the Site's project manager or other responsible site-specific employee; 4) proof of payment of invoices; contracts, work assignments, or IAGs, authorizing costs to be incurred and describing the work to be performed; 5) monthly progress reports containing descriptions of tasks performed, types and amounts of costs incurred, and other summary information to show that costs were incurred in connection with the Site; 6) audit reports of costs incurred under contracts and IAGs; and, 7) all of the above items for significant subcontractor costs. Tr. at 520:21 to 523:4.

285. There is no suggestion in CERCLA or the NCP that "commonly accepted accounting standards" apply to the documentation of CERCLA costs as a precondition to cost recovery. Courts have consistently rejected arguments that general accounting standards are germane assessing the adequacy of cost documentation under the NCP.

286. In *Findett,* for example, the Eighth Circuit reviewed *de novo* the district court's ruling that the United States was entitled to summary judgment on its response costs in the amount of $3.2 million dollars. In *Findett,* Mr. Jensen contended that the government's CERCLA cost documentation was not sufficient to meet NCP requirements. The Eighth Circuit affirmed the lower court's rejection of Mr. Jensen's argument, stating:

> The EPA submitted thoroughly detailed cost summaries, supporting data, and other competent evidence to support its claim for recovery of response costs. Findett's expert Dale Jensen in his report suggested that additional documentation the EPA had not submitted was necessary to substantiate the EPA's response costs. We disagree. Either the missing documentation noted in Jensen's report was in fact provided by the EPA to Findett, or the detail sought (for example, progress reports from contractors, audit reports of contracts) was only

> peripherally related to whether the EPA actually incurred response costs.... *In sum, Jensen's opinions regarding insufficient documentation do not create any genuine issue of material fact as to the costs the government seeks to recover from Findett.*

220 F.3d at 849 (emphasis added). Similarly, in *Hardage* the Tenth Circuit rejected Mr. Jensen's cost documentation argument, stating that

> [t]he expert witness affidavits at issue amount to no more than a denial that the government's documentation establishes a prima facie case that it is entitled to recover $5,441,201.25 in response costs ... [and therefore] fail to establish a genuine issue for trial.

Hardage, 982 F.2d at 1444.

287. The District Court for the Eastern District of California also recently addressed Mr. Jensen's documentation arguments. The court, in reviewing $7,809,683.46 in response costs the United States had incurred at a CERCLA cleanup, was direct and harsh with regard to the value of Mr. Jensen's interpretation of the NCP's documentation requirements:

> The Railroads made a wholesale attack on EPA's cost and allocation methodology, ignoring well-established legal precedent that has validated EPA CERCLA cost documentation procedures and practices. The Railroads' cost recovery expert witness was neither credible nor persuasive. He attempted to apply general cost accounting principles in a manner that was not helpful and resulted in unnecessary expenditure of time.

United States v. Atchison, Topeka & Santa Fe Ry. Co., Consolidated Arvin Cases: No. CV-F-92-5068 (OWW), No. CV-F-96-6226 (OWW), No. CV-F-96-6228 (OWW) (E.D. Cal.

May 24, 2002) at 80. In *Atchison*, as in the case at hand, Mr. Jensen advocated the use of general theories of cost accounting when assessing the adequacy of CERCLA cost documentation. The court rejected all of these arguments and ruled that the United States was entitled to summary judgment on its response costs. The court stated:

> The Railroads' accounting attack was premised on general theories of cost accounting, not environmental accounting as described in case law. *The attacks ignored well established decisional precedent that validates EPA's CERCLA cost accounting procedures and protocols.* The Railroads' accountant also ignored or refused to acknowledge the EPA's SCORES and CERCLA Superfund site accounting and cost documentation methods. The entirety of Railroads' claims on EPA's accounting methodology are rejected.

Id. at 152-53 (emphasis added).

288. Finally, Mr. Jensen's proposed documentation standard rejects any role for sworn testimony from government officials regarding work performed at a site, the time it took to accomplish this work, and contractor oversight, and related topics. *See* Tr. at 441:6-17. While no court has expressly addressed this aspect of his opinion, it is out of step with CERCLA case law. As noted above, several courts have considered and relied upon sworn statements by cleanup personnel in assessing the adequacy of cost documentation. *See, e.g., Chapman,* 146 F.3d at 1171; *Hardage,* 982 F.2d at 1442-43; *Findett,* 75 F. Supp. 2d at 991.

289. The Court views Mr. Jensen's testimony in this case similarly to how the courts noted above viewed his earlier testimony: it was not credible, nor was it persuasive.

(1) DEFENDANTS DO NOT CONTEND THAT THE UNITED STATES

CALCULATED ATSDR COSTS INCORRECTLY

290. Defendants rely upon their contention that the ATSDR costs are insufficiently documented; they did not present evidence of any flaws in the calculation of ATSDR costs the United States seeks. To the extent Defendants allege errors in accounting, the errors were corrected before trial and do not affect the weight or credibility of the evidence presented to support the United States' calculation of its direct costs.

(2) DEFENDANTS' REMAINING ARGUMENTS REGARDING THE ACCURACY OF ATSDR'S COSTS ARE UNAVAILING

291. Defendants' suggestion that ATSDR costs may have been double counted and that the agency may have been overcharged by NORC are also unpersuasive.

292. Defendants attempt to draw an inference between a "double count" of some ATSDR costs in an early version of EPA's cost summary and the accuracy of the government's ATSDR cost claim. The "double count" to which Defendants referred was corrected by the government before trial, without prompting from Defendants, and occurred in EPA's, not ATSDR's, cost summary.

293. Defendants introduced an e-mail during the cross examination of Betty Jones, ATSDR's cost recovery team leader. The e-mail suggested that NORC had charged ATSDR excessive and/or fraudulent costs for work on other sites. In rebuttal, Sharon Campolucci, ATSDR's project officer and field coordinator for the Libby Site, testified that she had no reason to believe that NORC had ever overcharged or fraudulently billed ATSDR, nor that it had overcharged or fraudulently billed ATSDR in connection with its work in Libby. Tr. at 596:19 to 598:6.

294. Defendants have not presented persuasive evidence that undermines the accuracy of the government's

accounting of its costs. Because they are both legally recoverable and adequately documented, the United States is entitled to recover the full $11,338,191.62 is costs ATSDR incurred through December 31, 2001.

3. THE VOLPE CENTER/AEOLUS, INC. COSTS ARE RECOVERABLE

295. Defendants have also failed to show that the United States has not adequately documented $266,538.10 in Volpe Center costs relating to a contract between the Volpe Center and Aeolus.

296. Defendants make much of the fact that Aeolus' Progress Report No. 2, which covered the period from February 6 to February 19, 2001, was dated June 28, 2002. However, Defendants do not contend that the information contained in the progress report is incorrect. In fact, Mr. John McGuiggin, the Volpe Center's project manager for the Libby project, testified that the progress report accurately reflected the work that occurred in the time period, regardless of the date it was prepared. Tr. at 330:13-19, 336:23, 337:16-18, 338:6-13. There was no testimony to the contrary.

297. Defendants' argument that Aeolus costs cannot be recovered because EPA has not to date used the quantitative risk assessment methodology that Aeolus developed as part of its contract with the Volpe Center is not convincing. EPA's decision to develop this methodology was based on its site-specific determination that the existing methodologies may not be sufficient to protect the Libby community. There was no testimony to the contrary. Further, EPA may use Aeolus' quantitative risk assessment methodology at the Libby Asbestos Site in the future. Finally, the fact that the quantitative risk assessment methodology may prove useful at other asbestos sites does not make it unrecoverable in this case. EPA's inclusion of Aeolus costs as a site-specific cost attributable to its Libby Asbestos Site cleanup is not unreasonable.

298. As Defendants have failed to carry their burden of demonstrating that all or some of the Volpe Center/Aeolus, Inc. costs were inadequately documented, the United States is entitled to recover $266,538.10, or the full amount of the disputed costs through December 31, 2001.

4. EPA'S INDIRECT COSTS ARE RECOVERABLE

299. The costs of administering cleanup programs and associated enforcement efforts, otherwise known as indirect costs, are real costs that are "part and parcel of all costs of" particular response actions, though they may not be directly charged to those sites. *See R.W. Meyer,* 889 F.2d at 1503-05. Indirect costs, like direct costs, are recoverable under CERCLA. *See* 42 U.S.C. § 9607(a) ("all" response costs recoverable); *R.W. Meyer,* 889 F.2d at 1503-05; *United States v. American Cyanamid Co.,* 786 F. Supp. 152, 159 (D.R.I. 1992); *United States v. Hardage,* 750 F. Supp. 1460, 1499-504 (W.D.Okla. 1990), *aff'd,* 982 F.2d 1436 (10th Cir. 1992). The United States may thus recover from Defendants EPA's indirect costs that are attributable to the Libby Asbestos Site.

300. Defendants contend that the United States is not entitled to recover the vast majority of EPA's indirect costs related to the Libby Asbestos Site because EPA's revised methodology for calculating indirect costs does not meet generally accepted accounting principles. This argument is without merit.

301. The United States has presented detailed testimony explaining EPA's revised indirect cost methodology and the methodology's compliance with Standard No. 4. The United States also has presented testimony and documentation regarding the application of the revised indirect cost methodology to determine the amount of indirect costs attributable to EPA's Libby Asbestos Site cleanup, or $11,322,225.66.

302. This evidence establishes a *prima facie* case that the United States is entitled to these response costs. *See Hardage,* 982 F.2d at 1443. The burden then shifts to

Defendants to rebut the costs. *See id.* Defendants have not met their burden.

303. Accordingly, the full amount of indirect costs the United States seeks in this case are attributable to the Libby Asbestos Site.

a. PROVISIONAL INDIRECT RATE FOR FISCAL YEARS 2000 AND 2001 IS 35.53%

304. Under EPA's revised indirect methodology, the total indirect costs attributable to a specific Superfund site may be determined by multiplying the indirect rate by the total direct costs for the specific site.

305. Because at the time of trial EPA had not finalized the actual indirect rates for fiscal years 2000 and 2001, the provisional rate for Fiscal Years 2000 and 2001 was the actual Fiscal Year 1999 indirect rate, or 35.53%.

306. EPA issued actual indirect rates for both years shortly after trial. The final indirect rate for Fiscal Year 2000 is 38.84% and the final indirect rate for Fiscal Year 2001 is 34.28%. Defendants contest the application of rates that were finalized post-trial, and the United States does not contend that they should be applied here. Accordingly, the provisional indirect rates for Fiscal Years 2000 and 2001, rather than the final indirect rates for those years, will be applied in this case.

b. EPA'S USE OF A PROVISIONAL INDIRECT RATE IS NOT INAPPROPRIATE

307. Defendants object to EPA's use of a provisional indirect rate. The actual indirect cost rate cannot be determined for any given year until all costs for that year have been incurred and the actual rate is calculated. EPA uses a provisional rate during the interim. Provisional indirect rates are commonly used in government and the private sector to capture indirect costs before an actual indirect rate can be calculated. There was no testimony to the contrary. In the absence of an actual indirect rate, indirect costs calculated based on the provisional rate are

recoverable. *See American Cyanamid,* 786 F. Supp. at 159 (awarding indirect costs based on provisional indirect rate but providing for reimbursement if final indirect rate lowers indirect cost amount).

c. EPA'S INDIRECT METHODOLOGY COMPLIES WITH STANDARD 4

308. The Statement of Federal Financial Accounting Standards No. 4 ("Standard No. 4") sets forth cost accounting principles for federal agencies in developing costing methodologies, including EPA's methodology for calculating indirect costs.

309. Standard No. 4 is the accounting standard applicable to EPA's cost accounting.

310. Standard No. 4 provides that its principles guiding federal agencies are "broad enough to allow maximum flexibility for agency managers to develop costing methods that are best suited to their operational environment." *See* Exhibit 1058, at 06358.

311. In 2000, EPA revised its methodology for determining indirect costs to be charged at Superfund sites. EPA's revised indirect methodology complies with the five requirements of Standard No. 4 because it has 1) reported the costs of its activities (outputs) on a regular basis; 2) identified organizations that produce major products or services; 3) identified the full costs of producing those products or services; 4) identified inter-entity costs, or costs from other federal organizations that provide products or services to the EPA; and 5) provided a means of identifying all of the agency's costs so that they can be assigned to outputs.

312. Therefore, EPA's revised methodology is an appropriate accounting measure of EPA's indirect costs charged to Superfund sites, including the Libby Asbestos Site.

d. SIMILAR INDIRECT RATES HAVE BEEN APPROVED IN OTHER CASES

313. Defendants insinuate that EPA's indirect cost rate is simply too high to be acceptable. EPA's indirect rates are comparable to other indirect rates that courts have approved. In other contexts, courts have ruled that indirect costs equaling one-third of total direct costs are appropriate. *Oliver-Finnie Co. v. United States*, 150 Ct. Cl. 189, 279 F.2d 498, 506-07 (1960) (indirect rate of 35.71% "fair and reasonable"); *D. Federico Co. v. New Bedford Redevelopment Auth.*, 723 F.2d 122, 132 (1st Cir. 1983) (court includes a "40% mark up for indirect costs").

e. DEFENDANTS' CHALLENGES TO EPA'S REVISED METHODOLOGY ARE UNAVAILING

314. Defendants make a variety of challenges to EPA's revised methodology under Standard No. 4 and other generally accepted accounting principles. Specifically, Defendants challenge whether 1) different agencies can have different methodologies for calculating indirect costs; 2) it is appropriate for EPA to include indirect costs of other agencies and contractors in its allocation base; 3) EPA's outputs are properly defined; 4) EPA's indirect cost pool is allocated based on benefits received; 5) EPA measures the full costs of its outputs; and, 6) EPA's indirect cost pool is homogeneous.

315. The language of Standard No. 4 is broad to allow maximum flexibility for federal agencies in developing costing methodologies that best suit their agencies. As a result, different agencies can permissibly use different methodologies for establishing their indirect rates. The fact that EPA uses a different methodology than ATSDR to calculate its indirect costs is irrelevant.

316. It is appropriate for EPA to include in its allocation base the indirect costs of those who have performed services for the EPA, such as other agencies and contractors, because all of these costs are considered necessary to cleaning up

contaminated sites, and they are included in the total direct cost of the activity at the site.

317. EPA's outputs under the Superfund program are properly defined as the cleanup of contaminated sites because this definition represents the whole of EPA's efforts under the Superfund program.

318. EPA's indirect cost pool is allocated based on a cause-and-effect relationship because allocating EPA's indirect cost pool over a base of total site-specific expenditures, or total direct costs, best represents the total activity of the Superfund program. The labor-hours approach that Defendants advocate does not represent the total activity of the Superfund program.

319. EPA's revised methodology measures the full cost of the Superfund program's outputs because the agency identifies its internal full cost of cleaning up contaminated sites. It would be neither appropriate nor practical for EPA to include third party costs in its allocation base.

320. EPA's indirect cost pool is homogeneous because the elements that make up EPA's indirect cost pool have a similar relationship to outputs under the revised methodology.

321. Merely alleging that the revised indirect cost pool is substantially larger than under the previous methodology is not sufficient to challenge the United States' documentation of these costs. The United States has explained in detail the methodology for calculating EPA's indirect costs at Superfund sites, including how it has determined its indirect cost pool and allocation base under the revised methodology.

f. DEFENDANTS' COST EXPERT DOES NOT KNOW WHAT METHODOLOGY EPA SHOULD USE

322. Defendants' expert Dale Jensen stated at trial that he does not know what methodology the EPA should use to recover its indirect costs.

323. Defendants' expert has offered no viable alternative for calculating indirect costs in a way that meets the requirements of Standard No. 4; instead, he advocates use of a prior methodology that was criticized repeatedly by the GAO, the EPA Office of Inspector General, the OMB, and Congress for failing to identify the full cost of Superfund site cleanups and, therefore, failing to allow for potential recovery of all indirect costs. Mr. Jensen's belated endorsement of EPA's previous indirect cost methodology is unpersuasive.

g. INDIRECT COSTS OF $11,322,225.66 ARE RECOVERABLE

324. CERCLA authorizes the EPA to recover "all costs of removal or remedial action incurred by the United States Government or a State ... not inconsistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(A). Recoverable costs include indirect costs. The United States has demonstrated that the revised indirect rate methodology fairly allocates the indirect costs associated with EPA's Superfund program to specific sites and that it complies with Standard No. 4, the relevant accounting standard. Accordingly, EPA may recover its indirect costs associated with the Libby Asbestos Site, applying the provisional indirect rate of 35.53% for fiscal years 2000 and 2001.

325. Applying the provisional indirect cost rate of 35.53% to EPA's total site costs of $31,866,663.83, EPA is entitled to recover $11,322,225.66 for indirect costs incurred at the Libby Asbestos Site through December 31, 2001. Defendants have already conceded $1,372,000 in indirect costs. The United States also is entitled to recover the remainder—$9,950,225.66.

III. JUDGMENT

326. Pursuant to 42 U.S.C. § 9607(a), Grace-Conn. is liable for the United States' response costs and costs of health effects studies at the Libby Asbestos Site through December 31, 2001. These costs total $54,527,081.11, including undisputed costs of $32,972,125.73; ATSDR costs

of $11,338,191.62; Volpe Center/Aeolus, Inc. costs of $266,538.10; and EPA indirect costs of $11,322,225.66 ($9,950,225.66 disputed indirect costs/$1,372,000 undisputed indirect costs). Judgment is therefore entered jointly and severally against Defendant Grace-Conn. and in favor of the United States in the amount of $54,527,081.11.

327. Under 42 U.S.C. § 9607(a), KDC is liable for the United States' response costs at the Kootenai Flyway and Kootenai Bluffs portions of the Libby Asbestos Site through December 31, 2001. The parties stipulate that $3,860,000 of the Volpe Center costs were for response actions at the Kootenai Flyway and Kootenai Bluffs. EPA's indirect costs related to this portion of the cleanup are $1,371,458 (35.53% x $3,860,000). Judgment is therefore entered jointly and severally against Defendant KDC and in favor of the United States in the amount of $5,231,458.

328. The United States is entitled to prejudgment interest that has accrued "from the later of (i) the date payment of a specified amount is demanded in writing, or (ii) the date of the expenditure concerned." 42 U.S.C. § 9607(a)(4). EPA sent Grace-Conn. a demand letter on May 23, 2000. The complaint in this action, filed March 30, 2001, constitutes written notification to KDC. The Court will delay ruling on the total amount of interest due under this provision to give the parties an opportunity to agree on the amount of interest due based on the amounts awarded the United States identified above. If the parties cannot agree, and no later than 30 days after this opinion is issued, the parties shall supply the Court with affidavits calculating the amount of interest due under this provision. The affidavits shall separately state the amount of prejudgment interest due on or before April 2, 2001, and that due after April 2, 2001. Agreeing on the amount of interest owed under this agreement will not be taken as an admission that interest is legally owed.

329. The United States is entitled to a declaratory judgment on the liability of Grace-Conn. for future cleanup

activities that may be conducted at the properties listed in FOF ¶ 1 and on the liability of KDC for future cleanup activities at the properties listed in FOF ¶ 2. *See* 42 U.S.C. § 9613(g)(2). This declaratory judgment does not extend to other properties in and near Libby that EPA may in the future determine to be contaminated, nor does it extend to issues related to the amount of costs incurred after December 31, 2001 or to the NCP consistency of any future response actions that EPA may undertake in the future. The Court understands that the United States will demand from Defendants, on a periodic basis, costs incurred at the Libby Asbestos Site after December 31, 2001. The Parties are strongly encouraged to resolve among themselves any disputes that may arise regarding Grace-Conn.'s liability for additional contaminated properties, the amount of future costs incurred, and/or the NCP consistency of any future response actions that EPA may select. The Parties should apply the principles contained in this opinion and the Court's prior rulings when attempting to resolve any disputes. To the extent the parties are unable to resolve any such disputes, this Court will exercise continuing jurisdiction over this case and hear such disputes at the request of either party.

The lawyers for all parties in this case are commended for their preparation, their presentations and their professionalism. Good lawyers aid the administration of justice in all cases, but in particular in difficult and complex cases.

The clerk is directed to enter judgment in favor of the United States and against Defendants in accordance with these Findings of Fact and Conclusions of Law.

IT IS SO ORDERED.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
MISSOULA DIVISION

UNITED STATES OF AMERICA, Plaintiff, vs. W.R. GRACE & COMPANY, W.R. GRACE & CO.-Conn., and KOOTENAI DEVELOPMENT CORPORATION, Defendants.	Civ. No. CV-01-72-M-DWM **DEFENDANTS' REVISED GENUINE ISSUES OF MATERIAL FACT INCLUDING FED. R. CIV. PROC. 56(f) FACTS DISCOVERED AFTER OCTOBER 31, 2002 RELATED TO UNITED STATES' MOTION FOR PARTIAL SUMMARY JUDGMENT ON DEFENDANTS' THIRD AFFIRMATIVE DEFENSE**

Pursuant to Fed. R. Civ. Proc. 56(f), W.R. Grace & Co.-Conn. ("Grace") and Kootenai Development Company ("KDC") (collectively "Defendants") submit these revised genuine issues of material fact related to the United States' motion for partial summary judgment on Defendants' third affirmative defense including facts discovered after submission of Defendants' brief in opposition to the United States' motion.

I. INTRODUCTION

1. From the 1920s until operations permanently ceased in 1990, various companies mined vermiculite ore from Zonolite Mountain, located about ten miles outside of Libby. Tr. Exh. 2000720 at 3 (Letter from W. Corcoran to C. Todd Whitman) (AR).

2. Vermiculite, a lightweight micaeous mineral (e.g., mica), is mined from the earth. Agreed Facts ¶ 2.

3. The crude vermiculite ore mined near Libby contained various amounts of a type of asbestos commonly known as tremolite asbestos. Tremolite also occurs in Zonolite Mountain in a non-asbestos form. Agreed Facts ¶ 4.

4. The specific amount of tremolite asbestos in the vermiculite does not matter for the purposes of this case. Transcr. Depo. Weis 361:15-23 (Dec. 23, 2002).

5. After mining the crude vermiculite ore, Grace milled the ore to remove impurities and the resulting vermiculite is referred to as "vermiculite concentrate." Agreed Facts ¶ 16.

6. Vermiculite concentrate would then either be shipped for later "expansion" or during a limited period ending in the 1960s would be "expanded" at the Export Plant facility in the town of Libby proper. Some customers used the vermiculite concentrate without expanding it. Agreed Facts ¶ 25.

7. Expansion is simply heating the vermiculite concentrate in a furnace where it expands like popcorn. Transcr. Depo. Weis 362:13-17.

8. Expanded vermiculite was used as an ingredient in products such as fireproofing and was also sold as wall and attic insulation and as an additive in potting soils and fertilizers for gardens. Transcr. Depo. Weis 362:8-23; Agreed Facts ¶ 3.

9. In November 1999, the Seattle Post-Intelligencer broke the story alleging an unusual number of asbestos-related illnesses and deaths in the small town of Libby, Montana. Transcr. Depo. Weis 363:3-8.

10. A few days later, Region 8 of the U. S. Environmental Protection Agency ("EPA") sent a team to Libby to investigate and to determine whether action needed to be taken under the Comprehensive Environmental Response Compensation and Liability Act ("CERCLA"). Transcr. Depo. Weis 363:9-18; *see also* Agreed Facts ¶ 55.

11. Under CERCLA, EPA had and has as its responsibility dealing with the current and future risks associated with the release of hazardous substances. Transcr. Depo. Weis 365:10-20; 369:14-20.

12. EPA employees are charged with fairly and consistently applying the statutes, regulations, guidance, and policies of EPA—and doing so in an even-handed, scientific manner. Transcr. Depo. Weis 370:6-11.

13. The key issue that EPA had to determine in Libby was whether current exposures to asbestos were a threat to human health. Transcr. Depo. E. Anderson 66:6-9; Tr. Exh. 2000831 at 6 (Expert Report of E. Anderson, July 30, 2002).

14. EPA found that the ambient air—the outside air—did not present a risk to those living, working, or visiting Libby. Transcr. Depo. Weis 401:12-403:12. The asbestos air concentrations in Libby in 1999-2000 were 10,000 times lower than the historical concentrations, depending upon time and place. Transcr. Depo. Weis 480:17-22. *See also* Tr. Exh. 484974 at 2 (Libby CAG Meeting Summary, Mar. 23, 2000) (AR). Transcr. Depo. Weis 403:13-405:13; 406:22-407:2. *see also* Tr. Exh. 485095 at 2 (Letter from Peronard

to G. Casey re Libby Air Quality, Sept. 23, 2001) ("I have seen no evidence to indicate there is any risk of exposure to asbestos fibers simply by breathing the outdoor air in Libby.") (AR); Tr. Exh. 2455 at EDN1003807 (e-mail from R. Vick to R. Rutherford forwarding Aug. 11, 2000 Libby Update, Aug. 14, 2000) ("Ambient air samples collected in town have shown no levels of asbestos fibers present in town.")

15. Our society is not based on the concept of "zero risk." Transcr. Depo. Weis 372:12-13. All human activity is associated with some risk of adverse consequences. Transcr. Depo. Weis 372:1-4. Many years ago, EPA considered a "zero risk" policy in connection with pollution and quickly realized that it could not adopt or enforce such a policy. Transcr. Depo. Weis 373:16-23. Instead, EPA has consistently adopted a policy in which it defines and quantifies the difference between acceptable and unacceptable risks from toxic exposures. Transcr. Depo. Weis 373:24-374:10; *see also* Tr. Exh. 2000831 at 4 and 14 (Expert Report of E. Anderson, Ph.D., July 30, 2002) (AR).

16. All cancers associated with exposures to toxic substances have relatively long latency periods between exposure and onset of disease. Transcr. Depo. Peronard 669:4-10. Due to these long latency periods, EPA expert recommended "a sound quantitative risk assessment" for determining future risk posed by current levels of asbestos exposure in Libby. Transcr. Depo. Lockey 239:1-6.

17. EPA has established four steps for conducting a quantitative risk assessment under the "risk paradigm," which EPA has used for nearly 20 years: hazard identification, dose-response relationship, exposure assessment, and risk assessment. Transcr. Depo. Weis 391:22-392:20. *See also* Tr. Exh. 2000831 at 6 and 14-15 (Expert Report of E. Anderson, Ph.D., July 30, 2002); Transcr. Depo. E. Anderson 98:15-18 (Sept. 27, 2002); *see also generally* Transcr. Depo. Weis 31:9-15 (Sept. 12, 2002).

18. The first step in the risk paradigm, hazard identification, simply means asking "what is known about the capacity of [the] environmental agent [here, asbestos] for causing cancer or other effects in humans and laboratory animals." Transcr. Depo. Weis 392:21-393:7. Tr. Exh 2061 at TRIAL03460, Section II.B.1.a (EPA, Guidance for Risk Characterization, Feb. 1, 1995); Transcr. Depo. E. Anderson 287:17-20 (Sept. 27, 2002).

19. Here, asbestos is a human carcinogen known for its capacity to cause two types of cancer: lung cancer and mesothelioma. Transcr. Depo. Weis 393:25-394:6. *See also* Transcr. Depo. E. Anderson 240:3-7.

20. The second step in the risk paradigm, dose-response characterization, "examines the quantitative relationships between exposure (or dose) and effects" and EPA's "Integrated Risk Information System ("IRIS") is a repository for such information for EPA." Transcr. Depo.Weis 394:7-11, 17-21, 22-25. *See also*, Tr. Exh 2061 at TRIAL03460-TRIAL 03461, Section II.B.1.b. (EPA, Guidance for Risk Characterization, Feb. 1, 1995); Transcr. Depo. E. Anderson 92:2-8.

21. Exposure assessment, the third step in the risk paradigm, examines the amount of the substance to which individuals are exposed. Transcr. Depo. Weis 395:1-5. *See also* Tr. Exh 2061 at TRIAL03461, Section II.B.1.c. (EPA, Guidance for Risk Characterization, Feb. 1, 1995); Transcr. Depo. E. Anderson 92:9-93:2. To assess exposures there must be "receptors," which is another way of saying that there must be a person present who is being exposed. Transcr. Depo. Weis 395:13-401:17. If no person or "receptor" is present, then there is no exposure and therefore no risk. Transcr. Depo. Weis 396:23-397:1.

22. Finally, the fourth step in the risk paradigm is risk characterization, which actually does the estimation or calculation of risks. Transcr. Depo. Weis 397:6-10. *See also* Tr. Exh. 2061 at TRIAL03458-TRIAL03459 (EPA, Guidance for Risk Characterization, Feb. 1995). It is this end result,

risk estimation, to which the Phase I QAPP referred when it stated a decision rule based on the existence of risks greater than 1 times 10^{-3} (discussed below).

23. For exposures to carcinogens, EPA has adopted a policy that acceptable risks are in the range of 1 out of 10,000 to 1 out of 1,000,000, also expressed as 10^{-4} to 10^{-6} or as 10-E4 to 10-E6. Transcr. Depo. Weis 374:11-15, 507:7-18; *see also* 40 C.F.R. § 300.430 (e)(2)(i)(A)(2); Tr. Exh. 2046 at TRIAL00350-TRIAL00353 (Risk Assessment Guidance for Superfund: Volume 1-Human Health Evaluation Manual-Part B, Development of Risk-based Preliminary Remediation Goals, Dec. 1991); 55 Fed. Reg. 8666, 8716 (Mar. 8, 1990) (Tr. Exh. 2041 at TRIAL06077) (Final NCP rule-making). These numbers mean that the risk from the exposure would result in one additional person getting cancer out of a group of 10,000 in the case of 10^{-4} or one additional person getting cancer out of a group of a million in the case of 10^{-6}. Transcr. Depo. Weis 374:19-375:6. Thus, the higher the number in the negative exponent, the lower the risk. For example, 10^{-3} represents a higher risk than 10^{-6}. Transcr. Depo. Weis 375:7-13.

24. In 1995, then Administrator of EPA, Carol Browner, formalized EPA's approach to and methodology for risk assessment in a series of documents. Transcr. Depo. Weis 375:14-23; *see also* Tr. Exh. 2063 (TRIAL0749-TRIAL0751) (Memorandum from C. Browner to Assistant Administrators, Associate Administrators, Regional Administrators, General Counsel and Inspector General re EPA Risk Characterization Program, Mar. 1995); Tr. Exh. 2061 (TRIAL03455-TRIAL03472) (EPA, Guidance for Risk Characterization, Feb. 1995); Tr. Exh. 2062 (TRIAL05224-TRIAL05235) (Implementation Program for the EPA Policy on Risk Characterization, Mar. 1995).

25. Administrator Browner introduced the need for transparency and clarity in risk characterization in a March 21, 1995 memorandum to EPA, titled "Memorandum on EPA Risk Characterization Program." In her memorandum,

she stated that EPA "must adopt as values transparency in our decision making process and clarity in communication with each other and the public regarding environmental risk .... this means that we must fully, openly, and clearly characterize risks." Tr. Exh. 2063 at TRIAL00749-TRIAL00751 (Memorandum from C. Browner to Assistant Administrators, Associate Administrators, Regional Administrators, General Counsel and Inspector General re EPA Risk Characterization Program, Mar. 1995).

26. The EPA Risk Characterization Policy and Guidance which stated that "A risk characterization should be prepared in a manner that is clear, transparent, reasonable, and consistent with other risk characterizations of similar scope prepared across programs in the Agency." Tr. Exh. 2062 at TRIAL 05226 (EPA, Guidance for Risk Characterization, Feb. 1995).

27. In response to Administrator Browner's policy of transparency, clarity, consistency, and reasonableness in risk characterization, the EPA Superfund program developed Risk Assessment Guidance for Superfund (RAGS): Volume I-Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). Interim guidance was released in 1998, then followed by final guidance in December 2001. *See* Tr Exh. 2952 (TRIAL00443-TRIAL00748).

28. RAGs Part D provides risk assessment table formats for the risk assessor to ensure that all of the risk equation parameters, exposure point data, and calculations are clearly presented. Tr. Exh. 2952.

29. EPA's policy regarding risk assessment as embodied in the three Browner documents and the Risk Assessment Guidelines (RAGs) have been used by EPA for years and have not been revoked. Transcr. Depo. Weis 452:8-453:12.

30. As discussed below, Weis departed from EPA's established procedures (RAGs) in conducting EPA's risk assessments for Libby. Transcr. Depo. Weis 596:23-597:2.

31. The risk of cancer posed by a hazardous substance depends upon the carcinogenic "potency" of the agent and also on the intensity (level), duration, and frequency of exposure. While the intensity, duration, and frequency of exposure depend upon specific circumstances, cancer "potency" is a property that is inherent in the chemical itself and does not vary from site to site. Transcr. Depo. Moolgavkar 27:14-24; 28:16-24; 35:14-19; 36:2-5.

32. In order to uniformly and consistently apply scientific knowledge, EPA has developed IRIS, which provides numeric calculations of the carcinogenic "potency" or "unit risk" on a substance by substance basis. Tr. Exh. 2898 (TRIAL0001-TRIAL00003) (Integrated Risk Information System, What is IRIS?); *see also* Tr. Exh. 2046 at TRIAL00350 (Risk Assessment Guidance for Superfund: Volume 1-Human Health Evaluation Manual-Part B, Development of Risk-based Preliminary Remediation Goals, Dec. 1991); Tr. Exh. 2038 at TRIAL00188 (Risk Assessment Guidance for Superfund Volume 1-Human Health Evaluation Manual, Part A. Interim Final, Dec. 1989). *See also* Transcr. Depo. Weis 445:25-446:3.

33. According to EPA, asbestos-related disease occurs in a linear, non-threshold manner. Transcr. Depo. Weis 370:20-371:1. In other words, the greater the exposure (as measured by duration, intensity, and frequency), the greater the risk of disease, and conversely the lower the exposure the less the risk of disease. Transcr. Depo. Weis 371:2-7.

34. Asbestos-related diseases do not manifest themselves for decades after exposure. Transcr. Depo. Weis 370:15-19; *see also* Transcr. Depo. Peronard 669:4-10; Tr. Exh. 2000831 at 4 (Expert Report of E. Anderson, Ph.D., July 30, 2002) (AR).

35. Thus, the illnesses seen in Libby in 1999 through the present are from historic exposures that occurred before vermiculite operations ceased in 1990.

36. The IRIS cancer potency, or "unit risk," factor for asbestos was derived from occupational cohort studies of

lung cancer and malignant (cancerous) mesothelioma. Tr. Exh. 2000836 at 6-7 (EPA, IRIS file for Asbestos); Tr. Exh. 2000861 at 5-6 (Expert Report of Suresh Moolgavkar, July 29, 2002).

37. As reflected in IRIS and elsewhere, EPA's position is that the risks of lung cancer and mesothelioma cover non-cancer asbestos-related disease. *See* Tr. Exh. 2901 at TRIAL05146, (Sparta Township Environmental Asbestos Study, Oct. 4, 2002) and Tr. Exh. 2653 at EDW2002201 (Berman and Crump, Final Draft, Technical Support Document for a Protocol to Assess Asbestos-Related Risk, Sept. 4, 2001, transmitted to Chris Weis from Wayne Berman by letter dated September 17, 2001).[1] *See also* Transcr. Depo. Weis 467:24-468:20. The January 4, 2000 Phase I Quality Assurance Project Plan for Libby adopts this principle and states:

> it is considered likely that exposure levels that *protect* against unacceptable risk of lung cancer/mesothelioma (in the range of 0.1 to 0.0001 f/ml; see below) *will also protect* against unacceptable risk of asbestosis.

Tr. Exh. 270 at p.7 (emphasis added).

38. Accordingly, exposure levels that present "acceptable" risks for mesothelioma or lung cancer are considered protective of non-cancer endpoints such as asbestosis, which generally result from much higher levels of exposure.

39. The IRIS unit risk for asbestos is especially reliable because, unlike the vast majority of chemicals IRIS has analyzed solely on the basis of *animal* studies, the asbestos unit risk is based entirely upon *human* epidemiological studies of both chrysotile and amphibole[2] asbestos.

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[1] An earlier draft of this document is Tr. Exh. 495652 (AR). The quoted language is found on page 6.

[2] The Libby asbestos fibers are primarily of the amphibole class.

40. The reliability of the IRIS unit risk number for prediction of carcinogenic risk posed by Libby fibers can be and, in fact, has been directly evaluated using two occupational cohort studies involving workers occupationally exposed to Libby fibers at Grace's vermiculite facilities in Libby, Montana, work by Amandus and by McDonald. Tr. Exh. 2000861 at 6-10 (Expert Report of Suresh Moolgavkar, July 29, 2002).

41. In the early 1980s, two occupational cohort studies were performed among Grace workers in Libby. *See* Tr. Exh. 337944 at 49-55 (H.E. Amandus, The Morbidity and Morality of Vermiculite Miners and Millers Exposed to Tremolite-Actinolite: Part I (1987) (AR); Tr. Exh. 338134 Part II (1987) (AR); Tr. Exh. 338247 Part III (1987) (AR); Tr. Exh. 338249 (J.C. McDonald, Cohort Study of Mortality of Vermiculite Miners Exposed to Tremolite, 1986) (AR); and Tr. Exh. 496281 (J.C. McDonald, Radiological Survey of Past and Present Vermiculite Miners Exposed to Tremolite, 1986) (AR). These studies analyzed the effects of high level exposures in an occupational setting. They provide valuable data from which the cancer potency (e.g., the dose-response) of Libby fibers can be derived based upon human epidemiological evidence. These studies, however, do not provide any information on the current levels of asbestos in Libby.

42. Using data from the Libby occupational cohort studies and standard analytical methodologies, Dr. Moolgavkar calculated the lung cancer and mesothelioma unit risks associated with Libby fibers. He concluded that EPA's IRIS unit risk number provides a conservative estimate of the carcinogenic risk posed by Libby fibers.[3] If anything, the risk presented by Libby fibers

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[3] While understandable that Peronard, Weis, and Miller all expressed concern about whether Libby asbestos was more toxic than other asbestos, their failure to recognize the existing data demonstrating the contrary and their reaching toxicity opinions based on the number of residents with disease without any

may be lower than the IRIS unit risk for asbestos. Tr. Exh. 2000861 at 14 (Expert Report of Suresh Moolgavkar, July 29, 2002).

43. EPA relied only on IRIS risk calculations in its work in Libby, and not those using Berman & Crump, NRC, or other risk methodologies. *See, e.g.*, Transcr. Depo. Weis 56:2-7 and 15-20 (Sept. 12, 2002).

II. MAY 2000 ACTION MEMO

44. On January 4, 2000, EPA issued its Phase I Sampling Quality Assurance Project Plan ("QAPP") for Libby. Transcr. Depo. Weis 408:12-409:13. *See also*, Tr. Exh. 270 (Phase 1 QAPP revision 1, Jan. 4, 2000) (AR).

45. In the QAPP, EPA stated its "decision rule" for determining whether to initiate a time-critical removal in Libby:

> EPA must identify an actual or potential threat to human health or the environment in order to initiate a time critical intervention at the site. Based on current EPA guidelines, a lifetime excess cancer risk of 1 E-04 is considered to be at the upper end of the acceptable risk range for chronic (lifetime) exposure. Based on this, this Phase I study will use an excess cancer risk of about 1 E-03 as the appropriate boundary for decision-making. *That is, if asbestos levels in air correspond to an estimated cancer risk of about 1 E-03 or higher, time critical actions to identify sources and find appropriate and effective interventions will be considered.*

Tr. Exh. 270 at 12-13 (emphasis added). *See also*, Transcr. Depo. Weis 410:13-411:3. EPA never changed or revoked

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scientific study of the exposures related to those incidents of disease caused them to reach unsupported conclusions and take action that was arbitrary and capricious and without scientific basis.

the Phase I QAPP decision rule. Transcr. Depo. Weis 412:4-18.

46. By January 26, 2000, EPA had decided to conduct a removal at the Screening Plant.[4] Tr. Exh. 163 at AJL1003097 (e-mail from Susan Muza to Jeffrey Lybarger, Jan. 27, 2000). *See also,* Transcr. Depo. Weis 413:23-414:18.

47. On January 31, 2000, EPA issued a press release stating that:

> [a]ir samples that the U.S. EPA collected in December show levels of asbestos requiring action at two sites. Results show elevated levels of tremolite-actinolite at the old Zonolite railroad loading area [the Screening Plant] at the base of Rainey Creek Road [sic] and at the "export site" near the ballfields. "This does not come as a big surprise," says EPA On-Scene Coordinator, Paul Peronard. "EPA has contacted the property owners to discuss the scope of the cleanup actions and their timing."

Tr. Exh. 231439 (Final EPA Action Update #3, January 31, 2000) (AR). *See also,* Transcr. Depo. Weis 435:13-436:10.

48. On February 16, 2000, William Yellowtail, the Regional Administrator for Region 8 EPA testified to Congress that EPA "will begin clean up actions at the two former processing centers this Spring," referring to the Screening Plant and the Export Plant. Tr. Exh. 338103 at 8 (written testimony of William Yellowtail, Regional

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[4] The Screening Plant is 21 acres located 4.5 miles outside of Libby at the junction of Rainy Creek Road and the Kootenai River. The Screening Plant has also been referred to as the Railroad Loading Station. At various times ending in 1990, Grace used the Screening Plant as the location for sorting or "screening" vermiculite concentrate into various commercial grades of product. In 1994, Grace sold the Screening Plant to the Parkers.

Administrator of U.S. EPA Region VIII) (AR).[5] *See also*, Transcr. Depo. Weis 436:11-438:1; 440:16-441:15.

49. Months later, in May 2000, EPA first prepared risk calculations, and Table 3 of the May 2000 Weis memo contains all risk calculations that EPA believed were "scientifically, supportable, peer-reviewed." Transcr. Depo. Weis 42:13-24. Thus, when EPA made the decision in January 2000 to clean up the Screening Plant it violated its own work plan by having no risk estimates on which to make the decision.

50. The risks that Weis calculated for the Screening Plant in May 2000 were in the range of 10^{-4}, which under the QAPP were not high enough to trigger time critical removal action.[6] In other words, EPA estimated in May 2000 that the risks at the Screening Plant were lower (e.g., less of a risk) than those that EPA stated in the QAPP would need to be present to justify taking a time-critical removal action.

51. EPA described the risk assessments that it did for Libby as "preliminary or screening level of risk" for which the purpose is determining plausible upper bounds; in other

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[5] Mr. Yellowtail further stated that: "It is clear that, relative to the levels of asbestos contamination, conditions in Libby today are much better than when the mine was in business. The piles of vermiculite around the export/expansion plant are gone, air emissions from the mill and processing operations no longer exist, and ambient air conditions in Libby have greatly improved over the last decade." At 6-7. Peronard acknowledged the same: "...things are significantly better today than 20 years ago, and this is consistent with the data that we collected so far." Tr. Exh. 3113L (E-mail from Peronard to Benefield, April 10, 2000).

[6] The risks were calculated by taking the mean or average concentration of asbestos in the air samples and multiplying it by the IRIS unit risk. Transcr. Depo. Weis 53:2-7. Weis also testified that EPA "really did not use the Berman methodolology for—the risk values that went forward were focused primarily on the EPA-IRIS risk, the EPA-IRIS slope factor. The others are presented only by way of reference." Transcr. Depo. Weis 56:2-7 and 57:15-20.

words, the highest possible risks. Transcr. Depo. Weis 31:22-32:2; *see also* Transcr. Depo. Weis 595:21-23.

52. EPA's risk assessments and Action Memos also mixed together historical exposures and disease and anecdotal reports of illness with current data representing current exposures and risk, making it appear in those risk assessments and Action Memos that current exposures were consistent with historical exposures, which they clearly were not. Transcr. Depo. Anderson 63:20-65:1, 67:5-22, 85:11-87:10, 98:7-100:9.

53. Furthermore, the air analysis on which those May 2000 risk estimates (and all three Action Memos) were based were critically flawed in ways that significantly overstated the asbestos concentrations (and thus the risks), as reflected in the Expert Reports of E. Anderson, Chatfield and Lee and summarized below:

a. First, EPA included fibers with dimensions that IRIS does not include. When doing a risk calculation under IRIS, the body of data must match the IRIS data. When IRIS for asbestos was developed, asbestos was counted using phase contrast microscopy ("PCM") because that is what was available at the time. PCM, however, cannot distinguish between asbestos and non-asbestos fibers. PCM is suitable for sampling in uniform environments, such as commercial asbestos mines, where the vast majority of dust particles are assumed to be asbestos fibers. In the mixed media environment of Libby, where many dust particles are not asbestos fibers, it is appropriate to use transmission electron microscopy ("TEM"), with its higher magnification, which can accurately identify the true asbestos fibers in a sample. However, the TEM has better resolution and allows the microscopist to see fibers that would not have been visible (too small) using PCM. According to IRIS, "PCM detects only fibers longer than 5 um and >0.4

um in diameter, while TEM can detect much smaller fibers." (http://www.epa.gov/iris/subst/0371.htm). Additionally, IRIS fibers must have an aspect ratio (length divided by width) of greater than 3:1. *See* Tr. Exh. 2901 at 5146 and 5149 (Sparta Township Environmental Asbestos Study, Oct. 4, 2002). In order to compare asbestos measurements in Libby to the IRIS slope factor, a data set similar in dimensions must be used. In other words, in order to obtain PCM equivalent ("PCME") counts using TEM, only true asbestos fibers >5 um in length and >0.4 in diameter should be counted. Instead of following an IRIS approach, EPA 'binned' (categorized by size) its data using the Berman & Crump methodology and used the binned data for its risk calculations, which over-counting of fibers and overestimation of risk occurred in the Weis July 2001 risk memo. *See generally,* Transcr. Depo. Weis 127:4-8 (too narrow counted), 130:3-16, 130:21-131:8 (too short counted), and 130:21-131:20 (less than 3:1 aspect ratio counted).

b. Second, EPA also inflated the asbestos count (and, thus, the estimated risk) by including *non-asbestos* minerals. For example, approximately 10 to 15 percent of the ISO spectra analyzed by EPA laboratories misclassified non-asbestos particles as asbestos. Tr. Exh. 2000737 at 64-66 (Expert Report of Richard J. Lee, Ph.D., July 29, 2002) (AR); Tr. Exh. 2878 at TRIAL08482-TRIAL 08485 (Expert Report of Eric J. Chatfield, Ph.D., Aug. 30, 2002). EPA also counted (as asbestos fibers) particles that were in fact *non-asbestiform* varieties of amphiboles known as cleavage fragments. Tr. Exh. 2000737 at 28-30 (Expert Report of Richard J. Lee, Ph.D., July 29, 2002) (AR). Tr. Exh. 2878 at TRIAL 008490 (Expert Report of Eric J. Chatfield, Ph.D., Aug. 30, 2002).

c. Third, EPA improperly used indirect preparation samples which inflated the fiber count. EPA initially directed its laboratories to avoid indirect preparation methods of air samples. Tr. Exh. 270 (Phase 1 QAPP revision 1, Jan. 4, 2000); Transcr. Depo. Weis 200:17-201:4. EPA should have discarded the results of the indirect preparation samples and redone the sampling under appropriate conditions and timing to avoid overloaded filters. Tr. Exh. 3113C (Letter, dated September 22, 2002 from Chatfield to Anderson).

d. Fourth, Weis used the wrong values for certain samples. The numbers reported in the July 2001 Weis risk memo for the *only* direct preparation sample for the Screening Plant are inexplicably 3.6 times higher than the reported values in the database. Transcr. Depo. Weis 154:23-156:16, 157:11-159:3; Tr. Exh. 3113Q (E. Anderson response to EPA's Sept. 5, 2002 Comments).

54. Had EPA conducted proper asbestos analysis and properly used IRIS, the risks in the Weis May 2000 memo would have been in the range of 10^{-5}. Tr. Exhs. 2000831, 2881, 2900 (E. Anderson Expert Reports).

55. Further, in the May 2000 Action Memo as well as the later ones, EPA cites to PLM soil measurements as a basis for its decisions.

56. EPA, however, did not follow appropriate protocol for measuring asbestos in soil. Transcr. Depo. Chatfield 19:9-20:8 (need statistically valid point counting approach for PLM to be accurate); Tr. Exh. 711, TRIAL06321-TRIAL06234 (NIOSH 9002).

57. PLM can only resolve fibers too thick to be respirable (an entirely different population than that which relates to risk). Tr. Exh. 495612 at 2; *see also* Transcr. Depo. Weis 592:20-593:9. In his May 2000 risk memo, Weis also cited a study by Addison. In his deposition, however, he

acknowledged that he "did not consider Addison's studies to be realistic representations of exposures in Libby." Transcr. Depo. Weis 28:12-16. The use of unrealistic exposure parameters is contrary to EPA policies and guidance.

58. The presence of asbestos in soil does not imply an exposure route. There is no correlation between asbestos in soil and respirable asbestos in the air. Transcr. Depo. Weis 177-178 (Weis admitted in his deposition that he did not use PLM asbestos counts from soil for purposes of risk assessment); *id.* at 330 (stating that one could not predict airborne concentrations from dust measurements nor from soil concentrations); Transcr. Depo. Chatfield 71:11-73:6; 80:21-81:1.

59. Further Weis testified that, in May 2000, EPA put the residential soil sample analyses on hold—because of concerns about the precision and accuracy of the PLM measurement for soils and other solid media and that he does not know that those concerns have been resolved even today. Transcr. Depo. Weis 312:20-313:10.

60. Risk decisions should only be based on measurements of airborne fiber concentrations and not by solid media analysis (e.g., PLM). Transcr. Depo. Weis 327:23-328:14.

61. Therefore, the soil sample results showing presence of asbestos do not demonstrate the existence of a threat or risk and cannot be the basis for EPA's response actions, at the Screening Plant, residences, or elsewhere. *See* Tr. Exh. 270 at 7 (EPA, Sampling Quality Assurance Project Plan "S&QAPP") (AR) (stating that the primary exposure pathway is air and therefore emphasis was placed on collection of air samples); Tr. Exh.2000737 at 37-41 (Expert Report of Richard J. Lee, Ph.D., July 29, 2002) (AR); Tr. Exh. 2000645 at 9-12 (Grace April 29, 2002 Comments); Tr. Exh. 2881 at TRIAL08686 (E. Anderson Report, Aug. 30, 2002); Tr. Exh. 3114D, at 4 (June 9, 2000 letter from K. Lund to M. Dodson) (AR) (weathered tremolite in soil does not produce respirable fibers); Tr. Exh. 2000647 at 18-22

(Sept. 28, 2000 Grace Comments to Dodson re UAO); Tr. Exh. 2000674 at 4-5 (September 28, 2000 Grace Export Plant/Screening Plant Comments ("Grace September 28, 2000 Comments") (citing Berman and Crump 1999 risk assessment methodology); Tr. Exh. 2000643 at 8 (Grace Comments on May 2002 Action Memo); Tr. Exh. 2000645 at 9-12 (Grace April 29, 2002 Comments); Transcr. Depo. Peronard 64:15-25 (Aug. 28, 2002)(*In re W.R. Grace & Co.*).

62. By letter dated April 21, 2000, Peronard requested ATSDR to provide a health consultation to support the removal action decision that EPA had already made in January 2000. Transcr. Depo. Weis 445:11-446:2. *See also* Tr. Exh. 335468 (letter from Peronard to Walker) (AR).

63. Review of the draft Health Consultation reveals that ATSDR's findings and conclusions rely almost exclusively on a May 4, 2000 draft of the very same EPA Action Memorandum that the draft Health Consultation purports to support.. *See, e.g.*, May 17, 2000 draft Health Consultation at 1-3 (23 of the 30 references in the "Background and Statement of Issues" attached to Tr. Exh. 490374 (AR).[7] For the most part, ATSDR's May 17 draft Health Consultation merely parrots the findings and conclusions of EPA's draft Action Memorandum.

64. The May 2000 Action Memo fails to distinguish between, on the one hand, historical exposures and the present disease caused by those exposures and, on the other hand, current substantially lower exposures and the risks presented by the current exposures. Transcr. Depo. E. Anderson 63:20-66:9 and 67:5-22. EPA's failure to make this crucial distinction caused it to take action without legitimate basis. For example, in the May 2000 Action

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[7] In the May 17 draft of the Health Consultation the references are misnumbered. The May 4 action memorandum is mislabeled "4" in the "References" attachment, but is actually reference number "[2]" as cited in the May 17 draft Health Consultation. See Tr. Exh. 3114F at ADEN2000024 ("Final" May 22, 2000 Health Consultation with corrected "References" attachment).

Memo, EPA cites to anecdotal information about 200 cases of asbestos-related disease. However, due to latency those cases could only be from historical, not current exposures and do not provide information to support action. *See above.*

65. Both ATSDR and EPA's own staff physician, Aubrey Miller, expressed strong concerns about Peronard's misuse of the anectodal 200 cases (which Peronard used in the May 2000 Action Memo). Dr. Miller told Weis "Dude we have to talk to Paul about making comments on this ... we never reviewed the cases only a few of them ... this is not a representative population ... three doctors?? ...." Tr. Exh. 2979 (E-mail from Aubrey Miller to Chris Weis, May 11, 2000). Referring to Peronard's reliance on the 200 cases, ATSDR's Dan Middleton wrote: "The real point is that Paul is reporting health related conclusions without a "study" to back them up; if EPA is going to report information that is (a) collected informally and (b) not peer reviewed, the rigorous process we are required to follow is so compromised that we can't be effective." The statements about the 200 cases in the May 2000 Action Memo are "junk science" instead of proper scientific work and as such reflect the arbitrary and capricious nature of EPA's actions at Libby.

66. The May 2000 Action Memo asserts "high concentrations" measured by EPA but without reference to any standard by which the adjective "high" was derived. The determination of what levels were "high" or "low" under the QAPP relies on risk estimates and thus goes back to the Weis risk calculations which show the concentrations were *not* high.[8] *See above.*

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[8] Further, in connection with the World Trade Center, EPA takes the position that "safe and acceptable standards" for asbestos levels include results ranging from 0.0013 to 0.086 f/cc. Tr. Exh. 2973 (EPA WTC Fact Sheet). In Libby, "high" levels according to Peronard are 0.001 f/cc. Transcr. Depo. Peronard 466:4-13. This inconsistent application of EPA standards is arbitrary and capricious.

67. In addition, EPA had *no* air samples from either the Flyway or the Bluffs before 2001. Transcr. Depo. Peronard 451:13-452:12 and Transcr. Depo. Weis 631:5-14. Thus, the Action Memo has no factual basis for any assertions about air concentrations at those locations, which it included with the definition of the Screening Plant.

68. **On May 24, 2000, EPA admitted that "there was no immediate health risk from asbestos" at the Screening Plant.** Transcr. Depo. Weis 449:13-20, 451:13-452:1. *See also* Tr. Exh. 3082 at EPP1007237 (e-mail from Diane Hammer with attached "team" Q & A," May 24, 2000).

69. EPA's disregard of the NCP and other legal requirements is reflected in two telling internal e-mails. First, on November 30, 1999, Max Dodson of Region 8 advised Peronard and others that he (Dodson) had told the Seattle-Post Intelligencer that **"the 2 million dollar [removal] limit** which Paul had already informed him of but that was only temporary and we would continue our involvement through other mechanism and it **was not a constraint that would limit future work ... [and] that the Cercla (sic) statute provided almost unlimited authority to OSC's (sic).**" Tr. Exh. 2183 (E-mail from Max Dodson to Paul Peronard, November 30, 1999). Second, on October 10, 2001, Dodson wrote "Paul's estimate for cleanup would be 30 million dollars (40k per resident) and **to avoid cost share I assume it would have to be a removal .... Clearly the enforcement folks will have problems with this approach** if it involves removal but keep in mind it is the most expeditious way to get out of town." Tr. Exh. 3113M (EPP2000566).

A. SCREENING PLANT EE/CA

70. Peronard never considered an EE/CA appropriate and never discussed the possibility of doing an EE/CA for any portion of the Libby asbestos site. Transcr. Depo. Peronard 18:8-19:4. EPA appeared to view preparation of an EE/CA for Libby as a waste of time and effort. Transcr. Depo. Peronard 724:13-725:11.

71. EPA never prepared an EE/CA for any location or activity related to Libby. Transcr. Depo. Peronard 260:21-24.

72. In the May 2000 Action Memo, EPA defined the Screening Plant as including the Bluffs and Flyway, and described the combined site as occupying approximately 21 acres. In fact, the Screening Plant itself covers 21 acres, the Bluffs cover 42 acres, and the Flyway covers 19 acres. Transcr. Depo. Peronard 541:11-25. Gross errors like this lead to massive cost overruns, and are easily avoided by conducting an EE/CA before launching ill-conceived response actions.

73. Had EPA prepared an EE/CA for the Screening Plant, it would have reached the conclusion that *limited* soil excavation in areas of high asbestos concentration to a depth of 18 inches would have been sufficient to address any risk concerns. Tr. Exhs. 2879, 2000831, 2881, 2900 (Bartelt and E. Anderson Expert Reports). Limited excavation would have been more cost-effective (while still protective) than the massive excavation done by EPA. Tr. Exh. 2879 at TRIAL08581-TRIAL08582 (Expert Report of Richard E. Bartelt, Aug. 30, 2002).

74. At the Export Plant, EPA required Grace, who was conducting the cleanup, to remove only up to 18 inches of soil across most of the property. *See* Tr. Exh. 2436 at AJL1009956 (December 14, 2000 CAG Meeting Summary).

75. The Screening Plant site had large sections of land already effectively capped by asphalt and concrete slabs. *See, e.g.* Photos 6, 34, 187, 190 Tr. Exh. 3113D (portion of Tr. Exh. 3041); Tr. Exh. 3138 (CDM, Screening Plant Removal Action Work Plan, May 17, 2000). Had EPA prepared an EE/CA, it would have reached the conclusion to keep these caps in place because they protected against exposure and the cost of excavating them would be excessive. Tr. Exh. 2879 (Bartelt Expert Report). EPA admits there was no immediate risk associated with asbestos contaminated soil beneath the concrete pad in the long shed, yet removed that

concrete slab nonetheless. Transcr. Depo. Peronard 484:2-17.

76. Other large portions of the Screening Plant had groundcover that effectively prevented the asbestos from becoming airborne. Tr. Exh. 3138 at EPP1006752 (CDM, Screening Plant Removal Action Work Plan, May 17, 2000). Leaving such groundcover or adding more groundcover is an option EPA could have considered. Transcr. Depo. Peronard 531:23-531:5.

77. The CDM work plans called for leaving the long shed concrete slab in place, but as discussed further below, EPA dug that up anyway. Tr. Exh. 3138 at E001006765 (CDM, Screening Plant Removal Action Work Plan, May 17, 2000); Transcr. Depo. Peronard 484:2-17.

78. Had EPA followed its own procedures, the resulting cleanup at the Screening Plant would have included a combination of all of these alternatives, would have adequately protected human health, and would have been much more cost-effective. Tr. Exhs. 2879, 2000831, 2881, 2900 (Bartelt and E. Anderson Expert Reports). However, EPA did not adequately consider the costs of its cleanup actions at the Screening Plant as evidenced by the huge increases in estimated costs reported in each Action Memo. Tr. Exh. 2008 at TRIAL08700 (Comparison of Actual Screening Plant Costs v. Bartelt Calculations NCP Compliance Costs).

79. By using time-critical, emergency procedures to bypass the NCP's procedural safeguards, EPA failed to carefully analyze the risk, consider the alternatives, and choose a cost-effective remedy.

B. SCREENING PLANT REMEDIAL ACTIONS

80. EPA intended from the beginning to conduct a permanent cleanup. Transcr. Depo. Peronard 727:8-728:9. Peronard admits that he had been "directed to scope out a cleanup." Transcr. Depo. Peronard 728:12-13.

81. Comparing photographs of the Screening Plant before the EPA cleanup (*e.g.*, Photos 180, 187, and 190) with those taken in 2002 after the cleanup (*e.g.*, Photos 313 and 314) as well as the photographs taken during part of the cleanup (*see* Tr. Exh. 3113D, portion of Tr. Exh. 3041) shows that EPA's actions were remedial, not removal, actions at the Screening Plant.

82. At the Screening Plant, EPA engaged in massive soil removal, cleaning and decontamination of buildings, building demolitions, cleaning and decontamination of equipment, removal of existing caps and groundcover, and staging of soil at interim spots. Tr. Exh. 282 at 10 (July 2001 Action Memo) (AR); Tr. Exh. 264 (July 2001 Risk Memo); Tr. Exh. 495630 (EJD3R000430-EJD3R000449) (May 2002 Action Memo) (AR); Tr. Exh. 3113D (Photographs of Screen Plant Cleanup).

83. EPA excavated truly mind-boggling quantities of soil from the Screening Plant. In the northern part of the property, EPA dug and dug—far deeper than the planned 18 inches.[9] Transcr. Depo. Peronard 493:25-494:12.

84. By August 23, 2001, EPA had removed 131,000 cubic yards of contaminated soil and 14,000 cubic yards of debris from the Screening Plant. Tr. Exh. 495775 at 5 (CAG Meeting Summary, Aug. 23, 2001) (AR).

85. In addition, EPA took the following permanent actions at the Screening Plant:

- Demolished all of the buildings. Tr. Exh. 479807 at 2 (Volpe Monthly Progress Report, September 15, 2000) (AR). Cf. Photo 190 (house, Long Shed, etc. present) with Photo 127 (house demolished) and 313-314 (all structures gone) Tr. Exh. 3113D.

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[9] Yet both Peronard and Weis admit there was no risk-based justification for excavating at such levels or even excavating beyond the top foot or two. Transcr. Depo. Weis 183:12-18; Transcr. Depo. Peronard 117:12-21 (Aug. 28, 2002)(In re W.R. Grace & Co.).

- Removed and disposed of vehicles and equipment. Tr. Exh. 3139 at EPP1008118 (Letter from Peronard to the Parkers, Aug. 3, 2000) (AR).

- Cleared and grubbed all trees and shrubs. Tr. Exh. 479807 at 2 (Volpe Monthly Progress Report, September 15, 2000) (AR); Transcr. Depo. Peronard 488:3-9. Cf. Photos 31, 126, 180, 190, 199, and 244 with Photos 21 and 314-315 (Tr. Exh. 3113D).

- Excavated massive quantities of soil. Tr. Exh. 282 at 10 (July 2001 Action Memo) (AR); *see also* Tr. Exh. 495608 at 1 (CAG Meeting Summary, February 28, 2002) (AR). *See, e.g.* Photos 70, 74, 77-78, 111 and 151 Tr. Exh. 3113D; Tr. Exh. 3113B at CRP00013232 (CDM Daily Activity Report, Sept. 18, 2000).

- Placed agricultural fill material on the property. Tr. Exh. 3117 at VOLPE-A003926 (MARCOR Bi-Monthly Cost and Progress Report, Nov, 5, 2001).

- Placed rip rap on Kootenai River and Rainy Creek banks. Tr. Exh. 3117 at VOLPE-A003926 (MARCOR Bi-Monthly Cost and Progress Report, Nov. 5, 2001). *See, e.g.* Photos 317-319 Tr. Exh. 3113D.

- Brought in fill soil and removed and replaced it the following year. Transcr. Depo. McGuiggin 26-32 (Aug. 28, 2002). *See, e.g.* Photo 317 Tr. Exh. 3113D.

- Completed extensive work on the river front, installing thousands of cubic yards of rocks, steps down the river, as well as completely redoing the Rainy Creek streambeds through the Parker property, including new fish pools. *See* Transcr. Depo. Peronard 131:3-19 (Sept. 17, 2002); Transcr. Depo. Figueroa 59:16-60:7; 61:1-11 (Aug. 8, 2002). *See, e.g.* Photos 317-319 Tr. Exh. 3113D.

- EPA has completed all excavation at the Screening Plant and has no plan ever to undertake further excavation. Transcr. Depo. Weis 556:9-24.

86. The cleanup activities at the Screening Plant, Bluffs and Flyway were all permanent, final actions. Transcr. Depo. Peronard 165:19-166:21.

87. As such, these actions were remedial actions and EPA did not comply with the NCP provisions relating to remedial actions.

C. THE BLUFFS

88. The Bluffs consist of 42 acres of undeveloped forest property located across the Kootenai River from the Screening Plant. Tr. Exh. 2618 at VOLPE-PMT024512 (KDC Bluff Property Final RAWP, Aug. 14, 2001).

89. In late 1999 and early 2000, no one lived or worked at the Bluffs. Transcr. Depo. Peronard 361:20-362:1. *See, e.g.* Photo 47 (sampling on the Bluffs) and Photo 45 (taken below the Bluffs showing vertical slope up to the Bluffs) Tr. Exh. 3113E (portion of Tr. Exh. 3023).

90. Once the Bluffs property was fenced, no time-critical removal action needed to be taken at the Bluffs. Tr. Exh. 2879 at 56,65 (Bartelt Expert Report).

91. EPA failed to prepare a Bluffs EE/CA for the Bluffs. Transcr. Depo. Peronard 379:10-21.

92. EPA's removal action at the Bluffs included excavation to 5 or 6 feet beneath the surface. Transcr. Depo. Peronard 282:24-283:1; VOLPE-A002018.

93. EPA removed approximately 20,000 cubic yards of material from the Bluffs. Transcr. Depo. Peronard 282:24-283:1.

94. EPA conducted a full, permanent, and complete cleanup at the Bluffs even though there was no risk and no people present, because EPA did not want to leave the job partially done. Transcr. Depo. Peronard 379:6-12.

95. EPA could have and should have conducted a proper EE/CA for the Bluffs back in 2000 after making the decision to conduct the cleanup at the Bluffs. Transcr. Depo.

Peronard 452:16-18; *see* 40 C.F.R. § 415.300(b)(4)(i) (Tr. Exh. 284 at TRIAL04182).

96. EPA did not initiate cleanup at the Bluffs until 2001—thus, EPA had ample opportunity to conduct an EE/CA between early 2000 and spring 2001.

97. Had EPA conducted an EE/CA, the appropriate remedy would have included removal of no more than 50 cubic yards of vermiculite from piles at the Bluffs. Tr. Exh. 2879 at 65 (Bartelt Expert Report).

98. No rational basis for EPA's extensive response actions at the Bluffs exists, given the levels of asbestos found and the absence of a human population. *Id.*

D. THE FLYWAY

99. The Flyway is immediately adjacent to the south end of the Screening Plant.

100. No one lived or worked on the Flyway. In late 1999 and early 2000, there was no activity at the Flyway.

101. Other than fencing the Flyway to prevent unauthorized access, no time-critical removal action needed to be taken at the Flyway. Tr. Exh. 2879 at 56,65 (Bartelt Expert Report).

102. EPA has used the Flyway as a contaminated soil staging area. Transcr. Depo. Peronard 592:1-15.

103. After access to the mine was resolved, EPA continued to stockpile contaminated soil and materials at the Flyway before moving them to the mine, and relocated the stockpile area to the Flyway, thus contaminating the Flyway. Transcr. Depo. Peronard 592:1-15.

104. EPA had ample time to prepare an EE/CA for the Flyway from fall 2000 through spring 2001 and failed to do so. Transcr. Depo. Peronard 716:18-717:3.

105. EPA commenced excavation at the Flyway in September 2001, has dug up massive quantities of soil from the forest in the southern part of the Flyway, and has not

yet started its planned excavation on the Northern portion. *See, e.g.* Photos 295 (northern unexcavated portion), 258, 260, 263, and 266 (excavation in southern portion) Tr. Exh. 3113F; Transcr. Depo. Peronard 635:7-14.

106. Had EPA conducted an EE/CA at the Flyway, it would have reached the conclusion that either no action or, instead, institutional controls were the appropriate, most cost-effective alternatives to address any asbestos contamination on the property. Tr. Exh. 2879 at 56, 65 (Bartelt Expert Report).

III. JULY 2001 ACTION MEMO

A. BROWNLEE PROPERTY

107. On August 19, 2000, EPA went to the Brownlee property at 819 Cabinet View Road and took a sample from a pile of unexfolitated vermiculite. Transcr. Depo. Weis 617:1-9. *See also* Tr. Exh. 487398 at 9 (data summary through July 2, 2001) (AR); Tr. Exh. 282 at 2 (July 2001 Action Memo) (AR).

108. The pile consisted of about 5 cubic yards of material. Transcr. Depo. Weis 617:10-14. Tr. Exh. 282 at 5 (July 2001 Action Memo) (AR).

109. The August 2000 sample contained 2% asbestos, according to the PLM method. Tr. Exh. 282 at 2 (July 2001 Action Memo) (AR). *See also* a Transcr. Depo. Weis 617:15-19.

110. On December 9, 2000, EPA returned to the Brownlee property and took eight additional samples of material from the Brownlee's yard and garden. Transcr. Depo. Weis 617:22-618:1. *See also* Tr. Exh. 487398 at 9 (data summary through July 2, 2001) (AR).

111. The test results for these eight additional yard and garden samples did not detect any asbestos. Tr. Exh. 487398 at 9 (data summary through July 2, 2001) (AR).

112. Also on December 9, 2000, EPA took three dust samples from the inside of the Brownlee home. Tr. Exh.

487398 at 8 (data summary through July 2, 2001) (AR). *See also* Transcr. Depo. Weis 618:11-20.

113. No asbestos was detected in any of these dust samples from the interior of the Brownlee home. Tr. Exh. 487398 at 9 (data summary through July 2, 2001) (AR).

114. On December 9, 2000, EPA took an air sample from the interior of the Brownlee home and did not detect any amphibole asbestos. Transcr. Depo. Weis 619:1-5. Tr. Exh. 487398 at 8 (data summary through July 2, 2001) (AR).

115. EPA had all of these pile, dust, and air test results no later than January 2001. Transcr. Depo. Weis 619:12-15.

116. EPA never informed the Brownlees of any risk associated with staying in their home based on these test results, probably because EPA did not find asbestos in the dust or air sampling inside the home, despite the presence of the vermiculite pile in the garden. Transcr. Depo. Peronard 168:24-169:10, 179:12-25 (Aug. 28, 2002)(*In re W.R. Grace & Co.*).

117. On January 22, 2001, EPA publicly stated that it had not yet determined if it was going to clean up vermiculite piles on residential properties. Tr. Exh. 2437 at EPP1002842 (Ask EPA, Jan. 22, 2001).

118. EPA obtained no additional information concerning the Brownlee property from January 2001 until late summer or early fall of 2001. Transcr. Depo. Weis 619:16-21.

119. EPA had nearly a year from the time that it inspected the Brownlee property and identified a pile of unexfoliated vermiculite to the time that it sought approval for a time-critical removal action to remove this pile from the Brownlee property.

120. Accordingly, EPA was required to have prepared an E[illegible]A. 40 C.F.R. § 415.300(b)(4)(i) (Tr. Exh. 284 at TP[illegible]04182).

121. EPA removed not only the vermiculite pile, but excavated large quantities of soil as well. Tr. Exh. 2879 at 48-49 (Bartelt Expert Report).

122. EPA did not prepare an EE/CA for the Brownlee property and thus it did not act in accordance with applicable law and its actions were inconsistent with the NCP.

123. Had EPA prepared an EE/CA, using the data available to it, EPA would have removed 5 cubic yards of material (the vermiculite pile) and done nothing else at the Brownlee property. Tr. Exh. 2879 at Table 7 (Bartelt Expert Report).

B. SIEFKE PROPERTY

124. During July 2000, as part of the Phase I sampling, EPA did an inspection of the Siefke property at 3496 Highway 2. Transcr. Depo. Weis 619:22-620:3. *See also* Tr. Exh. 270 at 7 (Phase 1 QAPP revision 1, Jan. 4, 2000) (AR).

125. During the July 2000 inspections of the Siefke property, EPA noted the presence of salvaged equipment from the mine site as well as a metal shop built from sluice pipes from the mine. Transcr. Depo. Weis 620:7-12.

126. During the July and August 2000 inspections, EPA took samples of the inside air and these tests detected the presence of asbestos in the air. Transcr. Depo. Weis 620:13-19. *See also* Tr. Exh. 487398 at 62 (data summary through July 2, 2001) (AR).

127. In July 2000, EPA took dust samples from the inside of the Siefke residence and the test results detected the presence of asbestos in the dust. Transcr. Depo. Weis 620:20-25. *See also* Tr. Exh. 487398 at 62 (data summary through July 2, 2001) (AR).

128. EPA had these test results no later than July 20, 2000. Transcr. Depo. Weis 621:1-4. *See also* Tr. Exh. 487398 at 62 (data summary through July 2, 2001) (AR).

129. On December 4, 2000, Peronard expressed concern to Weis that the dust and air data from the Siefke home "looks high to me." Transcr. Depo. Weis 622:6-14. Tr. Exh. 3134 at EPP1005531 (e-mail from Peronard to Weis). Yet EPA never informed the Siefkes of any risk associated with staying in their home. Transcr. Depo. Peronard 168:24-169:10 (Aug. 28, 2002) (*In re W.R. Grace & Co.*).

130. In July 2000, EPA took five samples from the yard of the Siefke property as well as samples from soil-like material on the salvage equipment at the Siefke property. Tr. Exh. 487398 at 64 (data summary through July 2, 2001) (AR).

131. The results of the samples from the salvage equipment showed the presence of asbestos by PLM. Tr. Exh. 487398 at 64 (data summary through July 2, 2001) (AR).

132. The results of the four yard samples showed no asbestos by PLM and one showed less than 1% asbestos by PLM. Tr. Exh. 487398 at 64 (data summary through July 2, 2001) (AR).

133. EPA had all of the yard and equipment test results no later than January 2001 when it met with Mr. Siefke to discuss the sampling results from his property. Tr. Exh. 3114E at EPP1001198 (e-mail regarding Peronard, Jan. 23, 2001).

134. EPA obtained no additional information concerning the Siefke property between January 2001 and July 2001.

135. EPA had nearly a year between the time that it inspected the Siefke property, identified the presence of salvage material from the mine, identified a building made of pipe from the mine, detected the presence of asbestos in the air and dust inside the Siefke residence, and discovered a pile of unexfoliated vermiculite on the Siefke property and the time that it sought approval for a time-critical removal action for the Siefke property.

136. Accordingly, EPA was required to have prepared an EE/CA. 40 C.F.R. § 300.415(b)(4) (Tr. Exh. 284 at TRIAL04182).

137. EPA demolished various buildings, producing over 3,000 cubic yards of debris, and excavated over 1,000 cubic yards of soil. Tr. Exh. 2879 at 49-50 (Bartelt Expert Report).

138. EPA did not prepare an EE/CA for the Siefke property and thus it did not act in accordance with applicable law and its actions were inconsistent with the NCP.

139. Had EPA prepared an EE/CA, using the data available to it, EPA would have done nothing at the Siefke property. Tr. Exh. 2879 at 58 (Bartelt Expert Report).

C. ATSDR MORTALITY STUDY

140. In 2000, ATSDR conducted an analysis of mortality statistics for Libby, Montana for the 20-year period from 1979 to 1998 (the "Mortality Study"). Transcr. Depo. Weis 481:12-23. *See also* Tr. Exh. 150, AHF1000115-AHF1000189 (Health Consultation: Mortality from Asbestosis in Libby, Montana 1979-1998 (December 2000); Tr. Exh. 151, ASD2000001-ASD200034 (Updated Mortality Study, Aug. 1, 2002) ("Updated Mortality Study"); Transcr. Depo. Dearwent 10:21-24.

141. Due to long latency periods for the development of asbestos-related diseases, the asbestos-related deaths ATSDR reported in the Mortality Study were associated with the levels of potential exposure that existed in Libby from the late 1950s to the mid-1970s, during the highest rate of vermiculite production and prior to changes in the production process at the vermiculite facilities significantly decreased asbestos potential exposures. Transcr. Depo. Dearwent 10:25, 11:1-25, 12:1-9.

142. Therefore, based upon the time period of exposure that the study was designed to analyze, the ATSDR Mortality Study cannot be used to determine risks of

asbestos-related disease presented by potential post-1990 exposures in Libby.

143. Further, the Mortality Study demonstrates that significant elevations in asbestos-related mortality primarily associated with high level exposures have not existed for over a decade due to the closure of the vermiculite mine and associated facilities in 1990. For example, the Mortality Study found that of the 12 mortalities attributed to asbestosis, 11 were men who worked at the vermiculite mine or related facilities for an average of 24.5 years, and one was the wife of a 20-year employee. Transcr. Depo. Weis 484:8-485:13; 487:4-15; 490:6-25.[10] *See also* Tr. Exh. 151, ASD2000001-ASD200034 (Updated Mortality Study); Transcr. Depo. Dearwent 154:2-7; 169:3-25, 170:1-3.

144. Out of a total of three mesothelioma mortalities, two were former vermiculite workers, and one was suspected of being a wife or other family member of a mine or mill worker. Transcr. Depo. Dearwent 199:1-25, 2000:1-3; Tr. Exh. 151 at ASD2000006 (Updated Mortality Study).

145. The Mortality Study also demonstrated that increases in lung cancer mortality could be explained by occupational association with the vermiculite mining and processing facilities that closed in 1990. Tr. Exh. 151 at ASD2000010 (Updated Mortality Study); Transcr. Depo. Dearwent 169:15-25, 170:1-3; 172:9-17.

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[10] The arbitrary and capricious nature of EPA's decision process is reflected by EPA's gross misuse and misunderstanding of the ATSDR Mortality Study, on which EPA relies in its July 2001 and May 2002 Action Memo. EPA attempts to use the occupational exposure cases of asbestosis (with an average employment of 24.5 years) in the Mortality Study to claim that Libby does not fit the accepted principle that asbestosis occurs primarily in high level occupational settings. Yet Weis admits that the ATSDR Mortality Study contained no asbestosis-related deaths of anyone not associated with vermiculite mining or milling operations directly or through a family member. Transcr. Depo. Weis 481:12-490:20-25.

146. Excluding former mine/mill workers and confirmed household contacts of mine/mill workers, ATSDR found there was no statistically significant increase in any mortalities associated with asbestos-related disease: asbestosis, mesothelioma, lung cancer. Transcr. Depo. Dearwent 199:5-201:1; Tr. Exh. 151 Table 8 at ASD2000025, Updated Mortality Study.

147. In fact, ATSDR concluded that there were no statistically significant mortality trends among this study population for any disease studied. Tr. Exh. 151 at ASD2000007 (Updated Mortality Study); Transcr. Depo. Dearwent 200:24-201:1.

148. The author of the Mortality Study concluded that the primary exposure pathways associated with asbestos-related mortalities were those pertaining to working at the vermiculite mine and processing facilities or household contacts with those workers—exposure pathways that ceased to exist by December 31, 1990. Transcr. Depo. Dearwent 169:15-170:3; 171:12-20.

149. Thus, EPA cannot rely on the ATSDR Mortality Study to justify its actions in Libby. The ATSDR Mortality Study deals with historic exposures and provides no basis for current actions.

D. ATSDR Screening Study

150. In the summer of 2000, ATSDR provided certain medical testing for people who had lived, worked, attended school, or participated in other activities in Libby, Montana for at least six months prior to December 31, 1990 (the "Screening Study"). Tr. Exh. 161 (ATSDR Interim Report: Preliminary Findings of Medical Testing of Individuals Exposed to Asbestosform Minerals Associated with Vermiculite in Libby, MT February 2001) ("Preliminary Medical Testing Report") (AR); Tr. Exh. 160 at 7 (Year 2000 Medical Testing of Individuals Potentially Exposed to Asbestiform Minerals Associated with Vermiculite in Libby, MT—a Report to the Community—ATSDR, Aug. 23, 2001) ("Final Medical Testing Report") (AR).

151. The Screening Study included an interview using a standard questionnaire prepared by ATSDR, a series of chest x-rays, and spirometry (lung function) testing. Tr. Exh. 161 at 10-13 (Preliminary Medical Testing Report) (AR). The Final Medical Testing Report focused primarily on the results of the x-rays.

152. The Screening Study was not an analytic epidemiological study and its results are not diagnostic of asbestos-related disease. Tr. Exh. 160 at 8 (Final Medical Testing Report).

153. Asbestos-related diseases have long latency periods of between 10-40 years from the time of exposure to the onset of disease. Transcr. Depo. Lybarger 32:8-19.

154. ATSDR limited participants in the Screening Study to people who lived in Libby during the period of highest potential exposure: prior to December 31, 1990 when the vermiculite mine and associated facilities were closed down. Therefore, the Screening Study does not provide evidence of a risk of asbestos-related disease from the potential levels of exposure to asbestos that existed in 1999, when EPA arrived in Libby, nearly a decade after the vermiculite operations ceased. Transcr. Depo. Lybarger 31:9-16; 32:8-19; 34:9-12; 35:1-22.

155. The ATSDR's Screening Study finding of "abnormalities" was **not** a diagnosis of asbestos-related disease.[11] Transcr. Depo. Lybarger 31:1-8.

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[11] Yet EPA transformed the findings of the ATSDR Screening Study into a basis for its Second Action Memo: in the statement of factors considered under § 300.415(b)(2)(viii), EPA claims that in Libby in 2001 there were hundreds of people suffering from asbestos related illnesses, blending this bald and unsupported statement with the assertion that according to the Screening Study "more than a thousand people will have asbestos related scarring in their lungs, or the pleural lining of their lungs." Tr. Exh. 282 at 18 (Second Action Memo)(AR).

156. In fact, ATSDR found that the participants demonstrated no statistically significant increase of abnormalities in the interstitial lung tissue that is associated with asbestosis. Transcr. Depo. Lybarger 80:14-23 (8/13/2002); Tr. Exh. 160, Table 4 at 14; Transcr. Depo. Peronard 437:24-458:11.

157. Further, the results of the Screening Study demonstrate that the participants as a group did not exhibit any significant decline in pulmonary function. Transcr. Depo. Lybarger 47:2-13.

158. The most significant findings reported by the Screening Study did not pertain to the lungs or lung function. Instead they concerned abnormalities in chest x-rays that resemble plaques or thickening of the pleural tissue, which lines the chest cavity and the outside of the lungs.

159. It is generally acknowledged that many factors unrelated to asbestos exposure can result in x-ray "abnormalities" similar to those identified in the Screening Study, including fat deposits and historic scarring from prior surgeries, pneumonia, broken ribs and other chest trauma. Transcr. Depo. Lybarger 49:1-11; Transcr. Depo. Peronard 420:21-25, 430:23-432:5. 431:17-432:17.

160. As a result, x-ray studies, such as that conducted by the Screening Study, normally result in over 50% false positive findings of "asbestos-related" abnormalities. Depo. Transcr. Lockey 116:13-117:13.

161. The Medical Testing Program, in particular, was designed to be more sensitive than specific, likely resulting in a higher percentage of false positives than normally expected with a radiographic study. Depo. Transcr. Lockey 118:10-119:8.

162. Even where pleural abnormalities can be accurately identified as circumscribed pleural plaques, they are viewed merely as non-symptomatic markers of asbestos exposure. Tr. Exh. 161 at 8; Transcr. Depo. Lybarger 44:17-25.

163. The vast majority of circumscribed pleural plaques do not progress to significantly affect lung function. Tr. Exh. 161 at 8; Transcr. Depo. Lybarger 45:8-47:1.

164. As part of the Medical Testing Program, ATSDR performed a statistical multi-variate regression analysis to determine which factors demonstrated a statistically-significant association with pleural abnormalities on x-rays. Tr. Exh.160 at 18-19; Transcr. Depo. Peronard 410:10-411:3. This regression analysis is a statistical method which controlled for factors that could confound the results of the study. Transcr. Depo. Peronard 410:10-411:3.

165. After performing the regression analysis, ATSDR concluded that the following exposure pathways had the greatest association with pleural abnormalities in the study population:

- Working at one of the vermiculite mining or processing facilities (predominantly male);
- Household contact with a former employee of the vermiculite mining or processing facilities;
- Working as a secondary contractor at the vermiculite mining or processing facilities.
- Playing in vermiculite piles.

Transcr. Depo. Peronard 413:19-414:2.

166. ATSDR's analysis also found that the following non-occupational exposure pathways were ***not*** **associated** with radiographic pleural abnormalities:

- Handling vermiculite insulation;
- Having vermiculite insulation in the home;
- Using vermiculite around the home;
- Using vermiculite in gardens;
- Engaging in recreational activities along Rainy Creek Road;

- Playing on the ball field near the Export Plant;
- Frequently "popping" vermiculite on the stove.

Transcr. Depo. Lybarger 101:24-102:17; Tr. Exh. 160, Table 12 at 19; Transcr. Depo. Peronard 415:6-416:11.

167. Thus, other than limiting exposure to any vermiculite piles, the ATSDR Screening Study does not provide a basis for the actions that EPA has taken in Libby. Accord Tr. Exh. 3113L (E-mail from Peronard to Benefield, April 10, 2000) ("*No matter* what the medical screening shows I believe the export and screening plants need to be cleaned up....).[12]

E. WEIS JULY 2001 RISK CALCULATIONS

168. The July 2001 Action Memo also references the Weis July 2001 risk memo. The risk memo's discussion of the "scenario" sampling at the Screening Plant has contained serious errors rendering it "junk science." Tr. Exhs. 2000831, 2881, 2900 (E. Anderson Expert Reports).

169. Among the errors were using incorrect values for the only direct preparation sample (*e.g.* using values 3.6 times higher than the correct values in the database), using indirect preparation samples, and counting as fibers material that was not asbestos fibers. *Id.*; Tr. Exhs. 2878, 2000737 (Chatfield and Lee Expert Reports); Tr. Exh. 3113C (Letter, dated Sept. 22, 2002 from Chatfield to E. Anderson); Tr. Exh. 3113Q (E. Anderson response to EPA's September 5, 2002 Comments).

170. Further, these scenarios were irrelevant to the inquiry at the time given that EPA had demolished all of the structures in which this testing was done, a year earlier. *See* ¶ 85.

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[12] In this e-mail (April 2000) Peronard also wrote that "any other piles of unexfoliated vermiculite need to be removed" compared with his December 2002 testimony that he did not reach that conclusion until 2001. Tr. Exh. 3113L.

171. As to the draft residential risk calculations, those are addressed below.

IV. MAY 2002 ACTION MEMO

172. The Phase I Sampling conducted "in the residential areas of Libby was designed to determine the need for immediate action in those areas." Transcr. Depo. Weis 634:1-18. *See also* Tr. Exh. 2409 at EPP1005733 (e-mail from Weis to Smith, Nov. 30, 2000).

173. The Phase I residential sampling "results indicated that, while there was clearly a fingerprint of asbestos fiber in and around the homes in Libby, air concentrations of fibers measured under the conditions at the time were not elevated (with a few exceptions)." Tr. Exh. 2409 at EPP1005733 (e-mail from Weis to Smith, Nov. 30, 2000). *See also* Transcr. Depo. Weis 634:19-635:1.

174. The Phase II Sampling was intended to measure asbestos exposure during residents' routine activities. Transcr. Depo. Weis 409:23-25; 636:9-16. *See also*, Tr. Exh. 2405 at APT1001621 (Ask EPA, Nov. 27, 2000).

175. The Phase II Sampling tasks included: (a) measuring asbestos levels in the air when individuals are engaged in routine and special activities in and around Libby (i.e., vacuuming, dusting, working in an attic, gardening, etc.); (b) comparing those measurements to data collected from stationary air monitors at the same locations; (c) analyzing the air samples by both the TEM and PCM methods in order to see the relationship between the two; (d) determining which type of measurement is most appropriate; and (e) using the data to help assess health risk to people who engage in the types of routine and special activities investigated during the study. Transcr. Depo. Weis 635:17-636:14. *See also* Tr. Exh. 2405 at APT1001621 (Ask EPA, Nov. 27, 2000).

176. The intent of Phase II sampling was to conduct air sampling during specific activities intended to represent the "Reasonable Maximum Exposure" in order to make a

determination of risk in the residential areas of Libby. Transcr. Depo. Weis 636:15-25. *See also* Tr. Exh. 2409 at EPP1005733 (e-mail from Weis to Smith, Nov. 30, 2000).

177. The goal of the Phase II sampling was to obtain Libby specific exposure information for a residential risk assessment. Transcr. Depo. Weis 637:13-17. *See also* Tr. Exh. 2409 at EPP1005733 (e-mail from Weis to Smith, Nov. 30, 2000).

178. In response to the November 2000 draft of the Phase II sampling plan, EPA Headquarters made comments that emphasized the need to provide cost estimates in order to facilitate making important choices during the execution of the plan. Tr. Exh. 486085 at 1 (Reinhart e-mail forwarded to Peronard., Nov. 14, 2000) (AR); *see also* Transcr. Depo. Weis 638:1-25.

179. EPA considered the Phase II sampling plan, which included the residential exposure scenarios and the risk assessments based on those scenarios, "to be crucially important" and Peronard believed that "we will not regret this investment down the road, but we will regret it if we try to scrimp on locations and analysis." Transcr. Depo. Weis 639:22-640:8. Tr. Exh. 3114B at EPP1005530 (e-mail from Peronard to Weis, Nov. 20, 2000).

180. On November 20, 2000, Peronard told Weis and others at EPA Region 8 and HQ that:

> We had some general comments about the ambitious nature of the investigation, and the anticipated difficulty of its implementation. All true, but if this were an easy subject we could turn it over to the Boy Scouts and take annual leave. I don't think there is much else to say on this issue. It will be hard, we will have to adapt as we go, we will likely have to modify many elements of the plan as we get into the field. These field changes will all be documented, and the results/interpretation adjusted accordingly.

Tr. Exh. 3114B at EPP1005530 (e-mail from Peronard to Weis, Nov. 20, 2000). *See also* Transcr. Depo. Weis 640:9-641:2.

181. On March 1, 2001, EPA finalized and issued the Phase II Sampling Plan. Transcr. Depo. Weis 642:19-25. *See also* Tr. Exh. 307, (48410700000001-48410700000246) (Phase II QAPP Revision 0) (AR).

182. During the remainder of 2001, EPA conducted various residential scenario sampling events at various properties in Libby. Transcr. Depo. Weis 643:1-5. *See, e.g.*, Tr. Exh. 2639 (VOLPE-PMT264472-VOLPE-PMT264530) (Log Book, Libby Phase II Sampling, Apr. 30, 2001 to Aug. 21, 2001); Tr. Exh. 2664 (VOLPE-PMT252255-VOLPE-PMT25325) (Residential Sampling, August 16. 2001 to September 13, 2001). *See also* Transcr. Depo. Weis Exhs. 3113 G, H, I, J.

183. Starting in the fall of 2001, EPA prepared drafts of its Third Action Memo on which it relies for residential removals. Transcr. Depo. Peronard 627:3-12.

184. Given that in the fall of 2001, Peronard and others in Region 8 had decided that removal actions were needed at various residential properties and that those removals should start in the late spring or summer of 2002, EPA had more than six months in which to prepare an EE/CA for those residential removals.

185. On April 12, 2000, the EPA Assistant Administrator for the Office of Enforcement and Compliance Assurance wrote to Grace and promised that EPA would address Libby under the "same Superfund process" that EPA used elsewhere and that:

> In accordance with CERCLA and the NCP, EPA is authorized to take response measures deemed necessary to protect the public health, welfare or environment from a release, or threat of release, of hazardous substances.... *EPA's Superfund*

> *approach in determining protectiveness involves risk assessment.*
>
> . . .
>
> However, it is the site-specific risk assessment process that also ensures Superfund sites are protective. *Therefore, EPA uses risk assessments to determine site-specific circumstances of release, or threat of release.*

Tr. Exh. 279601 at EPP100074-EPP100075 (Letter from Steve Herman to Bill Corcoran). *See also* Transcr. Depo. Weis 626:1-16; 627:6-11 (concurring).

186. EPA concluded that no correlation exists between soil asbestos levels and indoor asbestos air concentrations. Tr. Exh. 3083 at EWT2000260 (Libby Asbestos Investigation, May 4, 2000).

187. EPA concluded that no correlation exists between indoor asbestos dust levels and indoor asbestos air concentrations. Transcr. Depo.Weis 309:5-23; Tr. Exh. 3083 at EWT2000260 (Libby Asbestos Investigation, 5/4/00).

188. EPA failed to comply with its own guidance and policy in preparing the risk assessments based on the Phase II residential exposure scenarios and also failed to comply with the NCP in its evaluation and ultimate decisions on which it relied on these risk assessments.

189. EPA is still engaged in "time-critical" removal activities in Libby and has stated that it will continue at least through the end of 2002, over three years after launching its response action. Transcr. Depo. Peronard 259-260 (Sept. 17, 2002). In fact, based on the November 2002 "removal" spreadsheet from EPA, it intends to continue removals through 2003 and beyond. Transcr. Depo. Peronard 238:20-239:1 and Tr. Exh. 3114H.

190. EPA failed to follow its own guidance in its risk assessment work in connection with Libby. In the July 2001 and December 2001 risk memo, EPA did not identify which

samples it used for its risk calculations or how it derived its PCME fiber counts. *See* Tr. Exhs. 263, 264, 265 (Weis risk memos). These omissions proved to be crucial and had EPA provided this information as required under its guidance, the extremely significant error in its work would have been caught by it much sooner, as discussed in more detail below.

191. In its July 2001 risk memo, EPA attempted to justify the "removals" at unidentified residential properties based on the risk assessment in the memo. The July 2001 risk assessment was a first cut at making risk calculations based on the Phase II residential scenario sampling discussed above. However, EPA's failure to follow its guidance made it impossible for anyone to provide meaningful review or analysis of those risk calculations, as discussed in more detail in connection with the December 2001 re-work of those residential risk calculations.

192. Without specifics, and in light of its admissions about the absence of correlations between air concentrations and dust levels and between air concentrations and soil levels, EPA in July 2001 had no basis for taking any residential removal actions.

193. Five months later, in connection with internal EPA discussions about residential cleanups, Weis prepared his December 2001 risk memo which provided a revised, and supposedly final, residential risk assessment based on the residential sampling scenarios. Transcr. Depo. Weis 8:1-12.

194. EPA is incurring costs of about $230,000 per home and thus an evaluation of the Third Action Memo and, critically, the December 2001 Weis risk assessment is of substantial significance. Tr. Exh. 2036 (CAG meeting minutes November 14, 2002).

195. A number of EPA employees expressed several concerns about the Weis December 2001 risk calculations and their lack of clarity, transparency, and reproducibility. Transcr. Depo. Weis 646:4-10; 646:22-647:13.

196. The concerns about the December 2001 Weis memo inside EPA were so significant that Weis prepared an April 2002 "clarification memo." Transcr. Depo. Weis 275:23-276:10.

197. This memo however did not provide the ability for others to reproduce the Weis calculations and still did not meet the EPA policies and guidance concerning risk assessments. Tr. Exhs. 2000831, 2881, 2900 (E. Anderson Expert Reports); Tr. Exh. 3113Q (E. Anderson response to EPA September 5, 2002 Comments).

198. After EPA released the Third Action Memo and the Weis December 2001 risk memo on which it relied, Grace provided comments and reiterated its concerns that the risk assessment did not satisfy EPA policies and guidance and that Grace could not reproduce the Weis December 2001 calculations. Tr. Exh. 2000643 at 8 (Grace Comments on May 2002 Action Memo).

199. Grace made these comments earlier in 2002 and later on July 31, 2002 submitted the expert report of E. Anderson, in which she presented these problems in detail. *See* Tr. Exh. 2000831 (Expert Report of E. Anderson, Ph.D., July 30, 2002).

200. Just by way of example, Dr. Anderson discovered that the Weis risk memo reflected PCME concentrations for Sample 2-00018 of 0.023 f/cc while the actual EPA database had as the highest PCME concentration 0.00064 f/cc. Tr. Exh. 2000831 at 21 (Expert Report of E. Anderson, Ph.D., July 30, 2002). This type of discrepancy between the database and the Weis memo pervades the Weis risk memos rendering them utterly unreliable. Tr. Exhs. 2000831, 2881, 2900 (E. Anderson Expert Reports); Tr. Exh. 3113Q (E. Anderson response to EPA's September 5, 2002 Comments).

201. Dr. Anderson's expert reports and deposition testimony are replete with examples of undisputed, glaring problems with the Weis risk calculations.

202. On September 5, 2002, EPA for the first time acknowledged that the Weis risk calculations were in error and that the errors were "non-trivial." Transcr. Depo. Weis 211:10-16.

203. Weis testified that he discovered these errors as a result of Dr. Anderson's July 31, 2001 expert report in this case, which Grace submitted as part of the Administrative Record. Transcr. Depo. Weis 210:9-25.

204. In its September 5, 2002 response, EPA however failed to provide revised risk calculations or to state the magnitude of the error. Transcr. Depo. Weis 212:15-213:17.

205. The corrected residential risk scenario calculations demonstrate that risks are up to 1,000 times lower than those in the Weis December 20, 2001 risk memo. *See below.*

206. As indicated above, had the Weis risk memos been prepared according to EPA policies and guidance—including those of clarity and transparency—these gross mistakes would not have been made or at a minimum would have been caught during internal EPA review of the draft. *See* Exh. 3113Q (Anderson Sept. 5, 2002 comments to Admin. Record); Tr. Exhs. 2000831, 2881, 2900 (E. Anderson Expert Reports).

207. The properly calculated risk assessment demonstrates that the range of risks for residents in Libby are acceptable and do not provide a basis for any removal, let alone any Time-Critical, Emergency Exemption Removals. *Id.*

208. For the residential scenario 1 (normal household activities), the average risks are 10^{-6}, which is well within EPA's range of acceptable risks.[13] Tr. Exh. 2900 at

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[13] Weis testified in his deposition that the reduction in the risks for Scenario 1 by three orders of magnitude (e.g., a reduction of 1,000 times) was primarily driven by changes in two samples and that at the time that he did the risk calculations he had questions about those samples. Transcr. Depo. Weis 239:1-25. EPA's failure to disclose its questions about those samples in its risk assessment

TRIAL08329 (E. Anderson September 30, 2002 Supplemental Report).

209. For residential scenario 2 (active cleaning), the risks are 10^{-6}, which is also well within EPA's range of acceptable risks. Tr. Exh. 2900 at TRIAL08329 (E. Anderson September 30, 2002 Supplemental Report).

210. Scenarios 3a and 3b deal with attic insulation for which the United States does not here seek to recover costs from Grace and thus the results of those scenarios are not relevant.

211. For residential Scenario 4 (rototilling as a more extreme surrogate for gardening), the risks are also 10^{-6}, which are similarly well within EPA's range of acceptable risks. Tr. Exh. 2900 at TRIAL08329 (E. Anderson September 30, 2002 Supplemental Report).

212. Because of the difficulties in predicting airborne concentrations from soil, dust, or even stationary air monitors, risk estimations should be derived from personal air monitoring data collected during task-based monitoring, just like the data collected in the Phase II residential scenario sampling. Weis Depo. 328:22-329:10.

213. The May 2002 Action Memo failed to mention, discuss, or consider the Weis December 2001 risk memo, the April 2002 Weis "clarification" memo, or any information from the residential scenario sampling and risk assessment. The May 2002 Action Memo fails to state that risk assessment shows that all of the relevant risk work reflected risks well within EPA's "acceptable" level of risk and thus would not support any cleanup, let alone time-critical, emergency exemption removals.

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further violates EPA's risk assessment policies and guidance. This omission is all the more glaring due to EPA's manipulation of its Phase II sampling plan to include the house from which these questionable samples were taken.

214. The May 2002 Action Memo makes statements that even EPA admits have no factual basis and no support in the Administrative Record. *See, e.g.*, Transcr. Depo. Peronard 627:13-629:1.

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